MASTER
NEGATIVE
NO. 95-82462-15

COPYRIGHT STATEMENT

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials including foreign works under certain conditions. In addition, the United States extends protection to foreign works by means of various international conventions, bilateral agreements, and proclamations.

Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or other reproduction. One of these specified conditions is that the photocopy or reproduction is not to be "used for any purpose other than private study, scholarship, or research." If a user makes a request for, or later uses, a photocopy or reproduction for purposes in excess of "fair use," that user may be liable for copyright infringement.

The Columbia University Libraries reserve the right to refuse to accept a copying order if, in its judgement, fulfillment of the order would involve violation of the copyright law.

Author:
Mann, John

Title:
Colliery accounts

Place:
London

Date:
1909

95-82462-15
MASTER NEGATIVE #

COLUMBIA UNIVERSITY LIBRARIES
PRESERVATION DIVISION

BIBLIOGRAPHIC MICROFORM TARGET

ORIGINAL MATERIAL AS FILMED - EXISTING BIBLIOGRAPHIC RECORD

Miner Reading Room
D622.005
M315

Mann, John, *jr.*

... Colliery accounts, by John Mann, junr. ... and Harold G. Judd ... London, Gee & co., 1909.

xvi, 116 p. incl. diagrs., forms. 22cm. ("The Accountants' library." vol. LI)

"'The Accountants' library.' (Second series) Edited by the editor of 'The Accountant.'"

Another copy in Business.

1. Coal mines and mining—Accounting. I. Judd, Harold G., joint author.

9-17147

Library of Congress HF5601.A2 vol. 51

RESTRICTIONS ON USE:

TECHNICAL MICROFORM DATA

FILM SIZE: 35mm REDUCTION RATIO: 12x IMAGE PLACEMENT: IA (IIA) IB IIB

DATE FILMED: 4-12-95 INITIALS: WW

TRACKING # : MSH 05962

FILMED BY PRESERVATION RESOURCES, BETHLEHEM, PA.

2.5 mm 1234567890

2.0 mm ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890

1.5 mm ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890

PM-MGP 13″x18″
METRIC GENERAL PURPOSE TARGET
PHOTOGRAPHIC

150 mm

100 mm

A4

A5

1.0 mm ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890

1.5 mm ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz1234567890

2.0 mm ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

2.5 mm ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

PRECISION℠ RESOLUTION TARGETS

Century

A&P

1303 Geneva Avenue
St. Paul, MN 55119

4.5 mm ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890

ABCDEFGHIJKLMNOPQRSTUVWXYZ

D410 Ac27
51

Columbia University
in the City of New York
LIBRARY

School of Business
The Montgomery Library
of
Accountancy

"THE ACCOUNTANTS' LIBRARY."

Edited by the Editor of "The Accountant."

(FIRST SERIES)

VOL. I.—**Bank Bookkeeping and Accounts,** by JOHN A. MEELBOOM, A.C.A.*

,, II.—**Auctioneers' Accounts,** by LAWRENCE R. DICKSEE, M.Com., F.C.A.

,, III.—**Builders' Accounts,** by J. A. WALBANK, A.C.A.

,, IV.—**Agricultural Accounts,** by T. WHEELER MEATS, A.S.A.A.*

,, V.—**Theatre Accounts,** by W. H. CHANTREY, F.C.A.

,, VI.—**Co-operative Societies' Accounts,** by F. H. SUGDEN.*

,, VII.—**Gas Accounts,** by the EDITOR.*

,, VIII.—**Mineral Water Manufacturers' Accounts,** by J. LUND, A.S.A.A., and G. H. RICHARDSON, A.S.A.A.

,, IX.—**Stockbrokers' Accounts,** by W. D. CALLAWAY.

,, X.—**Bookkeeping and Accounts for Grain, Flour, Hay, Seed, and Allied Trades,** by GEORGE JOHNSON.

VOL. XI.—**Polytechnic Accounts,** by H. CALDER MARSHALL, F.C.A.

,, XII.—**Solicitors' Accounts,** by LAWRENCE R. DICKSEE, M.Com., F.C.A.

,, XIII.—**Pawnbrokers' Accounts,** by FRED. THORNTON and J. HENRY MAY, A.S.A.A.

,, XIV.—**Engineers' and Shipbuilders' Accounts,** by FRANCIS G. BURTON, A.S.A.A.

,, XV.—**Tramway Accounts,** by DONALD MCCOLL.†

,, XVI.—**Australian Mining Companies' Accounts,** by GODDEN & ROBERTSON.

,, XVII.—**Printers' Accounts,** by H. LAKIN-SMITH, F.C.A.

,, XVIII.—**Medical Practitioners' Accounts,** by J. H. MAY, A.S.A.A.

,, XIX.—**Water Companies' Accounts,** by FRANK KEY, A.S.A.A.

,, XX.—**Fishing Industry Accounts,** by CHARLES WILLIAMSON, M.A., C.A.

* DOUBLE NUMBERS. † TRIPLE NUMBER.

"THE ACCOUNTANTS' LIBRARY."

(SECOND SERIES)

Edited by the Editor of "The Accountant."

Vol. XXI.—**Municipal Accounts,** by J. Allcock, F.S.A.A. †

„ XXII.—**Underwriters' Accounts,** by Spicer & Pegler, A.C.A.

„ XXIII.—**Jewellers' Accounts,** by Allen Edwards, F.C.A.*

„ XXIV.—**Multiple-Shop Accounts,** by J. Hazelip, F.C.I.S.

„ XXV.—**Building Societies' Accounts,** by W. Colin Grant-Smith, LL.B., A.C.A.

„ XXVI.—**Depreciation, Reserves, and Reserve Funds,** by Lawrence R. Dicksee, M.Com., F.C.A.

„ XXVII.—**Quarry Accounts,** by J. G. P. Ibotson, A.C.A.

„ XXVIII.—**Friendly Societies' Accounts,** by E. Furnival Jones, A.S.A.A.*

„ XXIX.—**Electric Lighting Accounts,** by Geo. Johnson, F.S.S., F.C.I.S.*

„ XXX.—**Fraud in Accounts,** by The Editor.

„ XXXI.—**Drapers', Dressmakers', and Milliners' Accounts,** by George H. Richardson, A.S.A.A., F.C.I.S.

„ XXXII.—**Wine and Spirit Merchants' Accounts,** by A. Sabin.

„ XXXIII.—**Dairy Accounts,** by F. Rowland, A.C.A.

„ XXXIV.—**Brickmakers' Accounts,** by W. H. Fox, F.C.A.

„ XXXV.—**Timber Merchants' Accounts,** by E. E. Smith, A.C.A.

„ XXXVI.—**Insurance Companies' Accounts,** by Edgar A. Tyler, F.S.A.A., F.C.I.S., F.S.S. †

Vol. XXXVII.—**Hotel Accounts,** by Lawrence R. Dicksee, M.Com., F.C.A.

„ XXXVIII.—**Laundry Accounts,** by F. J. Livesey, F.C.A.*

„ XXXIX.—**Cotton Spinners' Accounts,** by Wm. Moss, F.C.A.

„ XL.—**Shipping Accounts,** by R. R. Daly, F.C.A.

„ XLI.—**The Accounts of Trustees, Liquidators, and Receivers,** by Sidney Stanley Dawson, F.C.A., F.C.I.S., F.S.S.

„ XLII.—**Multiple Cost Accounts,** by H. Stanley Garry, A.C.A.

„ XLIII.—**Woollen and other Warehousemen's Accounts,** by John Mackie.

„ XLIV.—**Brewers' and Bottlers' Accounts,** by Herbert Lanham, A.C.A.†

„ XLV.—**Urban District Councils' Accounts,** by F. S. Eckersley.*

„ XLVI.—**Terminal Cost Accounts,** by Andrew Gow Nisbet, C.A.

„ XLVII.—**Single Cost Accounts,** by Geo. A. Mitchell, A.S.A.A., F.C.I.S.*

„ XLVIII.—**Tramway Bookkeeping & Accounts Simplified,** by Donald McColl.

„ XLIX.—**Process Cost Accounts,** by H. Stanley Garry, A.C.A.*

„ L.—**Bakers' Accounts,** by F. Meggison, C.A.

„ LI.—**Colliery Accounts,** by John Mann, Jun., M.A., C.A., and Harold G. Judd, C.A.

* Double Numbers. † Triple Numbers.

"THE ACCOUNTANTS' LIBRARY."

VOL. LI.

COLLIERY ACCOUNTS

BY

JOHN MANN, Junr., M.A., C.A.,

AND

HAROLD G. JUDD, C.A.

(Of John Mann & Son, Chartered Accountants, Glasgow and London.)

London:

Gee & Co., Printers & Publishers, 34 Moorgate Street.

1909.

Business
HF5410
.A27
1951

EDITOR'S PREFACE

THE object of the series of handbooks that is being published under heading of THE ACCOUNTANTS' LIBRARY is to provide, at a reasonable price, detailed information as to the most approved methods of keeping accounts in relation to all the leading classes of industry whose books call for more or less specialised treatment. No such series has hitherto been attempted; but there exist, of course, numerous separate works dealing with the accounts of one particular class of undertaking. These separate works are, however, for the most part either too expensive, or too superficial to answer the purpose that is particularly aimed at by THE ACCOUNTANTS' LIBRARY, which is intended to supply the student with that specialised information which he may require, while at the same time affording to the trader, banker, or manufacturer who is not in a position to secure the fullest information for his purpose, knowledge which can hardly fail to be of the very greatest assistance to him in the correct keeping of his accounts, upon a system specially adapted to his requirements, and therefore involving the minimum expenditure of labour. It is expected that the series will also be found of material assistance to bookkeepers of all classes.

Without aiming at giving an exhaustive account of the manner in which each separate business is conducted, the technical points in connection with each industry will receive as much attention as is necessary in order fully to elucidate the system of accounts advocated, while each volume will be the work of one who has made that particular class of accounts more or less a speciality. It is obvious, however, that to enable the necessary ground to be covered in the space available, it is incumbent to assume upon the part of the reader a certain knowledge of general bookkeeping. The extent of the knowledge assumed will vary according to the nature of the class of accounts considered. For example, in the volumes on "Bank Accounts" and "Shipping Accounts," a thorough acquaintance with ordinary double-entry bookkeeping is not unnaturally assumed, but in the case, for instance, of "Auctioneers' Accounts," and other similar volumes, such explanations are included as will enable the ordinary intelligent reader fully to grasp the methods described, even although his knowledge of bookkeeping may be of an elementary description. These explanations are doubtless superfluous as far as accountants are concerned, but are necessary to make the volumes of value to the majority of those specially engaged in these particular industries.

To subscribers for the whole series it may be added that, when completed, it will form a most valuable and practically complete library, dealing, at the hands of specialists, with practically every class of accounts, and illustrating the application

of the theory of double-entry as described in general works on bookkeeping.

The first series (of twenty volumes) has already been completed, and particulars of the subjects dealt with will be found on p. i. A second series (particulars of which will be found on page ii.) is now in progress; it is expected that this second series will comprise about thirty volumes in all.

34 Moorgate Street,

London, E.C.

CONTENTS.

	PAGE
PREFACE	v.
LIST OF FORMS in the Text	xi.
AUTHORS' PREFACE	xiii.
CHAPTER I.—Output and Wages	1
II.—Sales—Orders, Despatches, Day Books, Ledgers	12
III.—Purchases and Payment of Accounts, Cash Books	37
IV.—Stores and Costs, Diagrams, &c. ...	49
V.—Capital Expenditure and Depreciation ...	67
VI.—Royalties, Income Tax, Insurance, &c....	76
VII.—Auxiliaries—Wagons, Washers, Depôts, Houses, Sidings, Horses	82
VIII.—Profit and Loss Accounts and Balance Sheet	96
INDEX	109

LIST OF FORMS.

	PAGE
1—Pithead Weight Sheet	2
2—Output Book	4
3—Combined Rate and Time Book	6
4—Wages Sheet	8
5—Pay Ticket	10
6—Order Book	13
7—Shipping Order Book	14
8—Contract Book	16
9—Scroll Despatch Book	17
10—Despatch Sheet	19
11—Sales Book	21
12—Do.	22
13—Coal Ledger	24
14—Abstract of Coal Ledger	26
15—Abstract of Deliveries of Coal	28
16—Cart Sales Ticket	30
17—Wagon Record	34
18—Purchase Order	38
19—Purchase Requisition	39
20—Purchase Book	41

	PAGE
21—Cash Book	45
22—Voucher Cheque	48
23—Stores Issued Sheet	51
24—Stores Ledger Card	53
25—Fortnightly Cost Sheet	56
26—Monthly Profit and Loss Account	58
26A—Cost Summary	60
27—Coal Cutting—Time Card	62
28—Do.—Monthly Abstract of Machine Costs ...	63
29—Graph of Fortnightly Costs, &c.	65
30—Do.—Fluctuations in Prices and Wages ...	66
31—Do.—Depreciation Provisions	74
32—Income Tax Return...	79
33—Wagon Accounts	87
34—Washer—Monthly Cost Sheet	89
35—Depôt Sale Sheet	91
36—Horse Record	95
37—Trading and Profit and Loss Account (one Colliery)	98
38—Do.—(several Collieries)	101, 102
39—Balance Sheet	107

AUTHORS' PREFACE.

THE late Professor Stanley Jevons, in his standard work "The Coal Question," elaborated with fact and argument the theory that coal is the material basis of the national prosperity of Great Britain, and that the working of these coal supplies in the most profitable manner is the ruling factor in our commercial supremacy.

The magnitude of the industry is indicated by the fact that the world's production of coal in 1907, so far as known, reached the enormous total of 1,000 million tons, a total probably exceeding that of any previous year; while in the United Kingdom alone about one million persons are engaged in or about coal mines, and in 1907 the output of coal exceeded 267 million tons. The total output for the five principal coal-producing countries of the world in 1904, 1906, and 1907 was, according to the Board of Trade reports, as follows:—

Countries	1904	1906	1907
	Tons	Tons	Tons
United Kingdom	232,428,000	251,068,000	267,831,000
Germany	118,874,000	134,914,000	140,885,000
France	32,964,000	32,920,000	35,586,000*
Belgium	22,395,000	23,191,000	23,324,000
United States of America..	314,122,000	369,783,000	428,896,000*
Together ..	720,783,000	811,876,000	896,522,000

* Provisional.

It will be seen that the production of the United States now exceeds that of the United Kingdom by fully 60 per cent., but the production of Germany represents only about a half, and that of France and Belgium together rather less than a quarter of the production of this country.

As compared with its population, the production of coal in the United Kingdom surpasses that in the United States. It amounts to 6 tons per head, whilst in the United States it is about 5 tons per head.

The following statement shows the increasing production of coal in the principal British Colonies and possessions:—

Countries	1904	1906	1907
	Tons	Tons	Tons
British India	8,216,000	9,783,000	11,147,000
Australia and New Zealand	8,392,000	10,326,000	11,512,000*
Canada	7,370,000	8,717,000	9,385,000*
South Africa	3,163,000	4,185,000	4,679,000
Totals ..	27,141,000	33,011,000	36,723,000

* Provisional.

The writers of these pages have had pleasure in complying with the request for an outline of a system of accounting specially suitable for the records of this great industry. They do not, of course, claim that the system outlined is of universal application, but, as the result of considerable practical experience, they believe that the main principles laid down may with confidence be followed and readily adapted to meet any special circumstances. In applying this system, or any modification of it, the importance of obtaining prompt results

cannot be over-estimated. Accounts should be productive of *news*, not of history; better a simple system whose results are broadly correct and always promptly reached than a complex and comprehensive organisation, producing after the lapse of anxious months a mass of statistics which have by then passed into history.

The book is intended to assist in the modernisation and improvement of existing systems, as well as in the institution of a system from the beginning. A thorough knowledge of the principles of double-entry bookkeeping is assumed throughout, and the aim has been to deal with refinements rather than with rudiments.

The following pages describe first the bookkeeping necessary to record the mining and disposal of the coal; the next sections treat of Purchases, Stores, and Costs, with special reference to Depreciation; and a later chapter deals with several matters which are incidental, though not essential, to almost every colliery business—such as the ownership of Depôts and Washers, Railway Wagons and Sidings, and Workmen's Houses. Too often these ancillary accounts are considered as negligible parts of the general business of coal getting and coal selling, and are accordingly so entangled with the Coal Trading Accounts as to conceal rather than reveal the actual results of the trading. On the other hand, various enterprises sometimes associated with coal-mining, including Farms, Brickworks, Coke Ovens, &c., have been omitted as beyond the scope of the present book.

In view of the rapidly increasing use of machinery special attention has been directed to the question of Depreciation, and to modern methods of recording and tabulating Mining Costs.

The phraseology adopted by the coal trade for denoting the various seams and classes of coal varies considerably, each important coalfield seeming to rejoice in terms peculiar to itself. No attempt has been made to collate and explain all these local terms; but as some names were required for purposes of illustration, those in use in Lanarkshire have been adopted.

The authors desire to acknowledge valuable assistance received from several friends in the coal trade, especially Messrs. John Watson, Lim., Glasgow, and Mr. R. Gordon; and also the great help of their partner, the late Mr. R. Kyle Thomson, M.A., B.L., C.A.

142 St. Vincent Street,
Glasgow,
April 1909.

COLLIERY ACCOUNTS.

CHAPTER I.

OUTPUT AND WAGES.

WEIGHING.—The first records of the output are obtained upon weighing the hutches or tubs at the pithead. The weighing machine or balance is so set as to show the weight after deduction of allowances for the average weight of the hutch, and the average amount of dirt in a hutch-load of coal. The rate for these allowances is, of course, entirely a matter of arrangement and is fixed by different methods in different collieries. At some a fixed allowance for dirt is maintained over a considerable period, while at others the allowance is altered frequently in accordance with the result of an examination of a number of hutches taken at random during the period. The hutches examined are turned out and "picked" at the pithead in presence of the check-weigher, the dirt is weighed, and the average result determines the allowance for the succeeding period.

PITHEAD WEIGHT SHEETS.—In the mine, as the coal got by each miner, or group of miners working in partnership, is loaded into the hutches, a numbered tally is attached. The tally indicates the miner to whose account the contents of the hutch are to be credited, and the net weight shown on the balance, as agreed by the weighman and the check-weigher who represents the interests of the miners, is entered to the nearest quarter hundredweight against the miner's name in the

Pithead Weight Sheets or Books (Form 1). In this book the names of the men are arranged under the seams and sections where they are at work. At the end of the day the total of each miner's output is verified with the record kept by the check-weigher. The sub-additions show the daily output from each section and seam.

Form 1.—

PITHEAD WEIGHT BOOK.

.....COLLIERY. .....190..

No.	Name	Hutches in Cwts.								Daily Total
	*ELL COAL—									
	Section A.									
51	John Smith ..	8	9^1	8^2	8^1	7^3				41^3
54	A. Jones									50
										[91^3]
	Section B.									
93	M. Thomson ..									48
94	R. Brown									45
	&c.									[93]
	MAIN COAL—									
	Section F.									
	&c.									
										184^3

* NOTE.—The phraseology adopted by the trade for denoting the various seams and classes of coal varies considerably, each important coalfield seeming to use terms peculiar to itself. No attempt has been made to collate and explain all these local terms, but the nomenclature in use in Lanarkshire has been adopted. The principal seams of coal are there known as—Ell, Pyotshaw, Main, Splint, Blackband, Virtuewell, and Kiltongue.

The number of seams in any one pit averages four or five. The names used for classes of coal for merchanting are—Ell, Main, Splint, Nuts (comprising Trebles, Doubles, Singles, Pearls, Peas, Gum or Duff), and Dross (comprising Ell, Jewel, and other classes of dross).

The names are entered on the sheets each evening in readiness for the following day, space being left for the names of additional men who may be started in any of the sections. Where the miners are paid at different rates for different classes of coal from the same section, two or more lines should be left for each name.

OUTPUT BOOK.—The daily totals of the Pithead Weight Book are carried to a Total Book, in view of the necessarily soiled condition of the Weight Book at the end of the day; but the interposition of this record is not strictly necessary, as the purpose of the Weight Book is served when the figures are incorporated in the Output Book and Wages Sheets.

The sub-totals for the various seams are posted to the Output Book (Form 2), which is arranged to show the output from the different seams or sections for each day. Where coal is being taken from two or more estates subject to different royalties, each proprietor's coal is kept separate in the same way as each seam or section of each seam is kept separate, and care should, of course, be taken to observe this distinction in the output records. In practice this may be facilitated by numbering the tally pins in groups indicating the different sections worked.

It is usual to summarise on the Output Book the total time lost to the colliery through shortage of wagons or other causes.

Form 2.—

OUTPUT BOOK.

Output for month of.....190....

....Colliery.

Date	Ell				Main	Splint	Etc.	Total	Time Lost; due to		Remarks
	"A" Royalty		"B" Royalty						Shortage of Wagons	Other Causes	
	T.	C.	T.	C.	T. C.	T. C.	T. C.	T. C.			
190.. Jan. 1											
2											
3											
4											
5											
6											
7											
8											
9											

WAGES.

The most convenient classification of wages for the records and for costing purposes is into Productive and Non-productive, the latter being sometimes known as Oncost Wages. As a matter of calculation the productive wages are generally paid in respect of the tonnage of coal raised, while the oncost wages are paid upon the hours or "shifts" worked, or at a fixed weekly amount. The following is an example of the subdivisions of this main classification:—

Productive:—

Coal getting and Loading.

Oncost Underground:—

Drivers, Roadsmen, and Bottomers.
Extras for Levels and Narrows.
Brushing and Fathomage.
Ventilation.
Superintendence.

Oncost above Ground:—

Pumping.
Enginemen, Firemen, Screenmen, &c.
Coal Cleaning.
Mechanics and Labourers.
Locomotive Men.
Clerks.

In making up the wages the tonnage raised by each miner is obtained from the Pithead Weight Book (Form 1), in which, as already explained, each miner is credited with the quantity he raises daily. The total tonnage for the fortnight, as shown on the Pay Sheet, must agree with the total of the Output Book.

Rates Book.—The rates at which the miners are to be paid are taken from the Rates Book kept by the manager. The general rate of day wages current from time to time is fixed for

Form 3.—

COMBINED RATE AND TIME BOOK FOR FORTNIGHT ENDING.....190.....

PIT.....SEAM.....

Kind of Work	Names	Rate	W. T.	F.	S.	M.	T.	W. T.	F.	S.	M.	T.	Total Shifts	Names		Fathoms	Rate
	[*Men paid per "Shift"*] ..													[*Men paid per Fathom*] ..			

COLLIERY ACCOUNTS. 7

all the collieries in each district by the Conciliation Boards, as even the collieries which are not affiliated with the Boards follow the general example. The individual rates for each seam or class of work are fixed to give as nearly as possible this average wage, taking into account the special character of the work—*e.g.*, thickness of seam, ease in working, &c.

TIME BOOKS.—With regard to the oncost men, Time Books (Form 3) are kept by the oversman for recording the number of "shifts" worked; while where the men are paid by fathomage, &c.—*e.g.*, in sinking, brushing, and cutting—the record of the distance is kept by the manager and may be verified by the mine engineer.

WAGES SHEETS.—In the Wages Sheets (Form 4) columns are given for the foregoing details as to output, shifts, fathomage, &c., and the rates at which these are to be priced. Where necessary two or three lines are assigned to each miner, as in the Pithead Sheets, to show different classes of coal. Columns are also provided in the sheets for deductions* from the gross wages in respect of the following:—

(1) *Workers' Coal.*—The "Hill Sales" Sheets made up at the Colliery Office supply the necessary data for this deduction. The total of these sheets must of course agree with the total deduction on the Wages Sheet.

(2) *Rents—i.e.*, rents of houses belonging to the colliery and occupied by employees.

(3) *Smith Work or Pick Sharpening.*—A record of the work done for the miners is kept by the smith, or a fixed charge is levied on each miner.

* It should be borne in mind that under the "Truck Acts" deductions for Stores require to be authorised by written mandate from the miner, and the amounts so charged must not be in excess of the cost price to the colliery.

Form 4.—

WAGES SHEET from..... to ..... 19 , inclusive.

No..... Pit. .....Colliery.

No.	Name	Occupation	No. of Men	Daily Output: Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Total Output: Tons.	Cwts.	Shifts	Rate	Amount £ s d
	ELL:—																			
	Section A.																			
51	John Smith																			
53	A. Jones ..																			
	Section C.																			
61	A. Thomas ..																			
	MAIN:—																			
	Section F.																			
101	W. Lane ..																			

Oncost: Description	Oncost: Amount £ s d	Total Wages	Deductions and Cash Advances: Deductions: Workers' Coal	Rent	Smith	Society	Doctor	Check-weigher	Ex-plosives	Stores	Stamp	Advances: Overpaid last pay	Cash		Total Deductions £ s d	Net Amount Payable £ s d	Overpaid	Abstract of Doctor's Deductions: Dr. A	Dr. B	Dr. C	Dr. D	No. of Men	Shifts	Average

(4 and 5) *Benefit Society and Doctor's Fees.*—The amount of these deductions is determined by agreement with the men, the colliery company merely retaining the sums from their wages for simplicity of collection, and handing them over periodically to the benefit society and the doctor. Where more than one doctor is employed, columns are provided for apportioning the fees according to the doctor selected by the individual workman.

(6) *Check-weighers' Wages* in cases where they are collected for the men by rateable deduction from their wages, and handed over to the check-weigher.

(7 and 8) *Explosives and Stores.*—A record of the stores supplied is made up by the stores clerk.

(9) *Stamp.*—Where a form of receipt is taken upon payment of wages the penny stamp is deducted from the miner.

(10) *Cash advanced* to account of pay, and overpayments at previous pay.

It may also be necessary to have a column for Fines, and it is useful to have a blank column for special subscriptions or other items.

These deductions are totalled in a Collecting column, and the net balance payable to each miner thus brought out.

Columns are also provided to show the average rate per "shift" earned by the miners working on each different seam or section.

Upon completion of the Wages Sheet it should be certified as correct by the wages clerk and the manager, and, this done, it is sent to the Head Office to be checked, and then forms a requisition for payment.

PAY TICKETS.—The use of Pay Tickets (Form 5) is preferable to Pay Envelopes. These tickets are issued to the men on the evening previous to the pay day, and contain full details of the total wages and various deductions. On the men presenting these tickets on the following day, duly signed, the wages are paid over.

Form 5.— PAY TICKET.

No..... ——— COLLIERY.

Pay Ending .....

Name.....

Occupation .. ..

	£ s d
Tons Coal @	
,, Dross @	
,, ,, @	
Fathoms @	
Shifts, @	
Per Cent @	

DEDUCTIONS.	£ s d	£
Workers' Coal		
Rent		
Smith		
Society		
Doctor		
Checkweigher		
Explosives		
Stores		
Stamp		
Overpaid last pay		
Advanced Cash		
Net amount payable		£

.....*COLLIERY*.....190....

Received payment of the above Balance of £..... being payment in full of all Wages due to me up to this date, subject to the saving Clause in Rule — of the Conditions of Employment.

And I hereby authorise you to deduct from my wages in future, so long as I am in your employment, the amount of my House Rent; also the Sums paid by you for Medicine and Medical Attendance to me; likewise the price of any Coals, Materials, Tools, or Implements, to be furnished by you to me; the charge for Sharpening or Repairing Tools; and any Cash advanced to me.

(Signed) .....

Stamp, if £2, or over.

All Workmen employed at these Collieries are requested to make themselves acquainted with the "Abstract of the Coal Mines Regulations Act," 1887, the "Special Rules," and the "General Regulations and Conditions of Employment," for Colliers and others in our employment.

Where PAY ENVELOPES are employed the details given are similar to the Pay Ticket, with the exception of the form of receipt, which is omitted. In its place the envelope bears across its face, usually in red, an endorsation somewhat as follows:—

> "Any objections to the items on this Pay Note must be made in writing and returned on pay day. If not made upon that day, the wages paid will be held as having been accepted in full and conclusive settlement."

UNCLAIMED WAGES.—All wages not claimed within fourteen days should be put to the credit of "Unclaimed Wages Account" and relodged in bank, being only handed over thereafter upon an order from the manager. Sometimes instructions are given that unclaimed wages should be paid into bank upon the day of the pay, but this is not usually convenient.

VERIFICATION.—The payment of wages is a matter that requires the most careful attention, as it provides more scope for misappropriation of funds than any other branch of the business. It is important that the wages should be paid by a person independent both of the manager and of the clerk who has made up the Pay Sheet; and in addition a clerk from the Head Office or from the Auditor's Office should attend at the colliery at irregular intervals and verify the actual payment of the wages.

CERTIFICATION.—Under the foregoing arrangements the Wages Sheets, upon completion of the pay, will have been signed (1) by the principal wages clerk, who certifies the correctness of the entries relating to weights and rates; (2) by the clerks who make the calculations of the sums payable; (3) by the colliery cashier, who certifies that the sums set opposite each name have been duly paid, with the exception of those unclaimed, per list; and (4) by the manager.

CHAPTER II.

SALES.

QUOTATION BOOK.—In many collieries the quotations issued are press-copied, and a record kept in book form of the details. The more modern practice is to execute the quotation in duplicate form, and file the duplicates alphabetically according to the customers' names. When a quotation results in an order, and has been booked as such, the duplicate on the quotation file is transferred to another file. In this way the quotations requiring attention can be more easily followed up, and the quotations issued but not yet dealt with can be seen at any moment.

ORDERS.—All orders upon receipt at the Head Office are entered in an Order Book (Form 6), showing details of the quality of coal, price, terms of delivery, and consignee. If the order arises from a quotation issued, these particulars will be obtained from the carbon duplicate of the quotation. The deliveries against these orders are posted from the Despatch Sheets to the column for "Details of Deliveries," the amount of unfilled orders being thus readily ascertainable. Shipping orders are usually kept distinct from other sales, and are entered in a different section of the Order Book, or in a separate book, which may be ruled as shown in Form 7.

Form 6.—

ORDER BOOK

COAL ORDERS RECEIVED FOR.....COLLIERY.

Date	Ordered by	Addressed to	Station	Remarks	Trucks	Tons	Quality of Coal	Pit Price	Delivered Price	Details of Deliveries	Date Completed
1908 Mar. 1	A. Brown	J. Gray	Foothill	Moffat		50	Nuts	10s.		10th 6 11th 7 12th 6	Mar. 12

Form 7.— SHIPPING ORDER BOOK. .....190..

Date of Booking	Name of Shipper	Name of Ship	Loading Port	Price F. o. b.	Quantity Ordered	Quality of Coal	Date Due	Quantity Loaded	Date Loaded	Destination

CONTRACT BOOK.—In large collieries, or in cases where a large proportion of the output is sold under contract, a Contract Book (Form 8) is advisable, in addition to the Order Book, to show the terms of all contracts and the deliveries each month to account of them. The details of the contracts are written up from the quotations and contracts, and the deliveries are posted monthly from the Sales Book. On the second line the unfilled balance of the contract at the end of each month is given, and the total of all such balances shows at the end of each month the extent to which the output has been contracted for in advance. A Loose-leaf Ledger, or Card Ledger, is recommended for this purpose, keeping a page for each buyer or large contract.

Form 8.—

CONTRACT BOOK.

JOHN SMITH, Dundee.

Date	Quantity Contracted for Tons	Quality	Pit Price	Deliv'd Price	Commencement of Contract	Termination of Contract	Monthly Sales placed against Contract.—Tons									Total Quantity sent
							April	May	June	July	Aug.	Sept.				
1907 Mar. 10	1,000	Jewel	10/6		1st April	30th Sept. 1907	200	180	150	150	160	160				1,000
		Quantity to go					800	620	470	320	160					

SCROLL DESPATCH BOOK (Form 9).—This is a rough record kept by the despatch clerk of the despatch of loaded wagons, from which the particulars are extended into the Despatch Sheets. The page is subdivided according to the different classes of coal to be despatched.

Form 9.—

SCROLL DESPATCH BOOK.

Date	Wagon Nos.	Gross		Tare		Net		Disposal
	ELL :—							
	MAIN :—							
	SPLINT :—							

DESPATCH SHEETS.—From the Scroll Despatch Book the Despatch Sheets (Form 10) are prepared, showing the following particulars for each wagon despatched:—

Distinctive Number of Wagon.

Ownership—*i.e.*, whether owned by or "tied" ("thirled") to the colliery, or belonging to railway companies or traders.

Weights: Gross, Tare, and Net.

Under the heading of Net Weight columns are provided for the various classes of coal sold.

The Despatch Sheets record all coal despatched from the pit, and consequently include coal sent to the company's washers and depôts.

ADVICE NOTES.—From these Despatch Sheets Advice Notes are prepared at the colliery and issued to the customers daily, showing the quantities despatched but without details as to price. The Despatch Sheets are forwarded each evening to the Head Office for entry in the Sales Book.

Where the railway companies accept the weights without separate weighing the practice is somewhat different. Quadruplicate Way Bills are prepared—two copies going to the railway company (one to be forwarded to the receiving station), the third copy is forwarded to the Head Office of the colliery, and the fourth copy is retained at the colliery. It is from the copy of the Way Bill forwarded to the Head Office that entries are made in the Sales Book.

Form 10.—

DESPATCH SHEET.

.....Colliery ....190..

Customer	Consignee	Destination	Route	Wagon No.				Gross	Tare	Net					
				Own	Tied	Rail.	Traders			Ell	Splint	Nuts	Dross	&c.	
								T. C.	T. C.	T. C.	T. C.	T. C.	T. C.	T. C.	

SALES DAY BOOKS.

As priced statements of account are issued to customers only once a month, it is unnecessary to calculate daily the value of deliveries to each customer, and the Sales Books accordingly take the form of Ledgers for collecting the deliveries to each customer for a month. This forms a special feature of Colliery Sales Books, and there is probably no section of colliery bookkeeping in which practice varies so much as in the form of these books. As the result of experience, the choice seems to lie between the first two forms described below:—

In the first form (Form 11), at the beginning of each month, the names of the ordinary customers are entered in a column on the left side of the page, leaving sufficient space after each name for the entry of deliveries during the month. The pages are ruled with columns for each class of coal sold, and the deliveries per Despatch Sheets are entered daily under the customers' names and in their appropriate columns. At the end of the month the deliveries to each customer are summed, the totals being entered in red ink. These totals are then added and agreed with the total of the Despatch Sheets, the correctness of the month's postings and of the sub-additions being thus proved. The details relating to railway dues and wagon hire are explained below.

The second form (Form 12) it will be found more convenient to extend across two pages. The left page is ruled with 31 numbered columns in which to record the tonnage despatched each day of the month, while the right page has columns for classification according to quality. Here the amount of space to be left after each customer's name is determined by the number of different kinds of coal which it is expected will be delivered to him during the month. The deliveries are posted in the daily columns across the left page, each class of coal occupying one

Form 11.—

SALES BOOK.

.....Colliery.

Date	Customer		Consigned to	Fol.	Tonnage: Ell	Splint	Nuts	Dross	&c.	Tonnage in Colliery Wagons	Pit Price	Coal	Railway & other dues	Wagon Hire	Total
					T. c.	T. c.	T. c.	T. c.	T. c.	T. c.		£ s d	£ s d	£ s d	£ s d
1908 Mar. 1	A. B. & Co.	Glasgow	Ardrossan	2	8 7	..	9 2	..	..	9 2	10/-	34 6 6			
„ 3			„		..	10 0	..	20 12	..	10 4	8/-	42 10 5			
„ 8			„		35 2	..	..	..	..	10 0	8/-	7 14 10			
„ 11			„		..	66 5	..	..	..	..	5/-	5 3 0			
„ 15			Glasgow		25 4	36 1	10 5	..	..	15 2		89 14 9			
„ 30			„		..	..	..	..	..	17 8					
					68 13	106 6	19 7	20 12		61 16			6 8 3		
													2 6 1		
													..	0 7 7	
													8 14 4		98 16 8
						Carriage:	Rail	Wag.	53 17 @ 1/-	99 5 @ 9d					
						do.	Own	Wag.	29 6 10d	32 10 8d					
						Wagon Hire	do.	do.	29 6 2d	32 10 1d					
Mar. 1	C. D. & Co.	Motherwell													

Form 12.— SALES BOOK. Month of.....190 .

Addr'ss'd to	1	2	3	Kc.	3t	Quality	Ell T. C.	Splint T. C.	Nuts T. C.	Dross T. C.	Total T. C.	Price	Total £ s d	Ledger Folio	Account of	Colliery Pit Price	Colliery Amount £ s d	Washer Pit Price	Washer Amount £ s d	Railway Dues Rate	Railway Dues Amount £ s d	Wagon Hire Rate	Wagon Hire Amount £ s d

NOTE.—Where coal is carried in both railway and owner's wagons, two horizontal lines are used for showing the respective quantities, thus facilitating calculation of wagon hire charge.

horizontal line. At the end of the month each line is summed across and the totals entered on the right page under the respective classes of coal.

The cross totals of each page must balance, but if there should be any difference between the monthly total and the total of the Despatch Sheets this can be readily traced by comparing the total daily deliveries, as shown in the columns on the left side, with the Delivery Sheets.

When the correctness of the total tonnage has been proved, the quantities for each customer are priced and extended and the invoices prepared and issued.

The relative superiority of these two forms of Day Book depends upon the number of customers and the number of kinds of coal taken by each monthly. Where the customers are few, each taking several kinds of coal, the first is preferable; but where the customers are numerous (and especially if many of them take only one class of coal), the second form will be found most convenient.

COAL LEDGER.—With either of the foregoing forms of Day Book the value of the month's deliveries to each customer is posted to an account in the Sales Ledger in the ordinary way. There is, however, a third form of Day Book, sometimes called a "Coal Ledger" (Form 13), carrying still further the principle of minimising posting. This is effected by the inclusion of a Credit Cash column, which renders the use of a Sales Ledger unnecessary, the monthly debit for coal being squared off by posting Cash received and Discount. The ruling of this book is similar to the form first described above, with additional columns for cash, but a page or more is allotted to each customer, as in an ordinary Ledger, and the transactions are grouped according to the customers' names, as in a Ledger, and not according to months, as in a Day Book. For this purpose the Loose-leaf

Form 13.—

COAL LEDGER.

A. THOMSON, Edinburgh.

Dr. | *Cr.*

Date 190	Station	Wagons	No. I. Colliery: Ell	Main	Dross	No. II. Colliery	&c.	Rate	Railway Carriage, &c. £ s d	Money Values: No. I. Colliery £ s d	No. II. Colliery £ s d	&c.	Totals £ s d	Date 190	Cash (8) Discount	
Feb. 1	Bothwell	Railway	6													
12	Do.	Own ..	8													
2	Blantyre	Own ..	..	..	..	7										
7	Do.	Railway	..	..	..	10										
	&c.															
	Total ..		14			17		12/-		8 8 0						
								10/-			8 10 0					
	Railway Carriage	..	6 @ 1/-, 8 @ 10d.	BOTHWELL		7 @ 1/3, 10 @ 1/6	BLANTYRE		1 16 5					Mar. 15		18 17 6
	Wagon Earnings	..	8 @ 2d.			7 @ 3d.			0 3 1							0 0 6
									£1 19 6	8 8 0	8 10 0	&c.	18 17 6			18 17 6

Ledger, described later (see Ledgers), is recommended as specially suitable. The monthly sales on each account are extended for both tonnage and value in the ordinary way, and the Cash Book postings are made to the column on the right side. The total of sales is obtained by carrying the monthly amount of each account to Monthly Abstract Books (Form 14), thus bringing out a figure for statistical and balancing purposes. Totals of allowances and discounts may be extracted in the same way.

While this method obviates the necessity of posting from Day Book to Ledger, the saving of clerical labour is counterbalanced by the work involved in taking off the Monthly Abstract, and, as the items to be abstracted are scattered through the whole "Day Book Ledger," an omission is more likely to occur than if the whole transactions for each month are grouped together as in the other forms of the Day Book. There is, of course, an advantage in having the full record of each customer's account over a period of time readily accessible. On the whole, the first and second forms of Day Book above described are preferable.

ABSTRACT SALES BOOK.—Where several collieries are owned by the same company the deliveries from the various collieries may be gathered together into one Sales Book, or a separate Sales Book may be allocated to each. The latter course is recommended, as in the first form it is necessary to compress considerably the details of the classes of coal sold from each colliery, and consequently for costing purposes it is necessary to abstract the columns again. Where separate Day Books are used the monthly totals of tonnage and value may be collected

Form 14.—

ABSTRACT OF "COAL LEDGER," Month ending.....190..

Led. Fol.	Purchaser	Particulars of Sales			Wagon Hire			Railway Carriage			Net Sales		
		Ell	Main	Dross	£	s	d	£	s	d	£	s	d

into an Abstract Sales Book (Form 15), or separate statements may be rendered to the customer and separate postings made to the Ledger.

In some cases the work of posting the Despatch Sheets into the Sales Books is done at the collieries, and these books are forwarded at the end of the month to the Head Office completed as to deliveries. At the Head Office the calculations of the amounts payable are made. It is desirable to concentrate the clerical work in the Head Office as far as possible, and consequently this method is not recommended.

Washer Coal.—Coal sent to the washers belonging to the colliery company is charged through the Day Book at market rates. While it is rarely found necessary to keep separate books for the sales of washed coal, it is essential that its value should be kept distinct. To effect this the sales of washed coal may be entered in separate columns in the Day Books, or otherwise distinguished, as explained in the section dealing with washers.

Depôt Coal.—Coal sent from the pits to the sales depôts is passed through the Day Book in the same way as sales to customers, and should be priced at the current wholesale rates. The sales from the depôt are preferably entered in a separate Day Book.

Shipping.—As mentioned already, it is usual to keep the shipping transactions distinct from other sales.

When the shipping business is extensive each port is treated as a Sales Depôt Account as regards tonnage, and debited with deliveries and credited with the shipments from it during the month. A record is kept showing the stock at the port at the beginning of the month (arranged under the respective pits and qualities of coal), and the daily consignments to the port from the various pits as per Despatch Sheets. The credit side of

Form 15.—

ABSTRACT OF DELIVERIES OF COAL for Month ending.....190..

Left hand side.

| Customer | Consigned to | DELIVERIES | | |

Form 16.—

No..... CART SALES TICKET.

OFFICE.....

.....190..

M..... .....

RECEIVE from.....

	.....Coal		Triping		.....Dross		Nuts		Value		
	Tons	Cwts	Tons	Cwts	Tons	Cwts	Tons	Cwts	£	s	d
GROSS ..											
TARE ..											
NET											

Per.....Carter

.....

ENGINE COAL.—The fuel consumed by the boilers and locomotives at a colliery often represents a considerable proportion of the total output, and note should be kept of coal used for this purpose. Where accurate data are not obtainable it is important that tests be made from time to time of the amount consumed. The quantities are passed through the Sales Book and priced in the same way as other sales. This is necessary, not merely to account for the disposal of the total output, but also to give the correct charge against each colliery for engine fuel, &c., as an item of working expenses.

RAILWAY DUES.

The price quoted for coal may be either a "pit" price, the customer paying the carriage, or a "delivered" price. In the latter case the total charge against the customer should be divided by columns in the Day Book to show the respective proportions which represent railway dues and pithead price of the coal—*e.g.*, when the delivered price of coal is 8s. per ton the pithead price may be only 7s., the difference of 1s. representing the carriage which the colliery requires to pay the railway company. The information necessary for this division is contained in the Rate Books supplied by the railway companies, which give the rates per ton for carriage from the colliery to the various ports and stations.

These charges to customers for railway dues, per the total of the Railway Dues column, are posted to the credit of the Railway Dues Account in the Ledger; they should be compared monthly with the Railway Accounts, but some small difference may generally be expected, owing to discrepancies in weight between the railway company and the colliery. In some cases these particulars of pithead price and railway dues are detailed on the invoice, but generally the price shown is merely the delivered price.

SHIPPING CHARGES AND COMMISSION.—These are treated in the same manner as railway dues and similarly reconciled with the charges paid.

WAGON HIRE.—When the colliery company owns or hires wagons of its own the Railway Dues column falls to be further subdivided, as the rate charged by the railway company varies according to the ownership of the wagons used—*e.g.*, where the railway rate is 1s. for delivery in the railway company's wagons, the charge might be only 10d. if the colliery's wagons are used, the balance of 2d. representing wagon

hire. If the wagons employed belong to the railway company, and the total charge falls to be paid to it, the full amount is entered in the Railway Dues column. Where the wagons are the property of the colliery the Railway Dues column receives credit only for the amount payable to the railway company, say, 10d., the difference being carried to the Wagon Hire column, representing the hire earned by the colliery as owner of the wagons. (See also under WAGON ACCOUNTS).

RECONCILIATION OF OUTPUT AND SALES.

Statements should be regularly prepared, and embodied in the Cost Sheets, reconciling the output with the total disposals as follows:—

	Tons cwt.	Tons cwt.
Stock in Trucks at beginning of period		
Output (Pithead weight)		
Taken from Store Heaps (Bings)		
Received from .....Colliery....		
Total ..		
Despatched by Rail		
Despatched to Washer		
Local Sales (Cash)		
,, (Credit)		
Workmen's Fire Coal..		
Free Coal		
Total ..		
Placed in Store Heaps (Binged)		
Engine Dross		
Stock in Trucks at close of period		
Total ..		
Shortage		
or		
Surplus		

The difference brought out is the shortage or surplus for the period; this varies greatly in different pits, and also in the

same pit at different periods of the year. It may be due to a variety of causes—*e.g.*, the tare of the hutches may be slightly under- or over-stated, and the miners consequently not credited with the exact coal raised; or a smaller or larger deduction may be made for dirt than is necessary. Explanations of any exceptional differences between the output and disposals should be closely investigated and fully noted upon the monthly returns.

If this summary and reconciliation is prepared fortnightly, and the men are paid fortnightly, the figures should also be worked into the Monthly Cost Sheets by adjustment of the broken time in excess of the two fortnights. It will prove interesting and valuable to summarise again these fortnightly or monthly statements so as to reconcile with the figure of Sales in the half-yearly Profit and Loss Accounts.

WAGON RECORD.

As indicated above, the wagons by which the coal is conveyed from the pit may be divided into several classes:—

(1) Wagons owned or hired by the colliery.

(2) Wagons tied (thirled) to the colliery.

(3) Wagons belonging to traders.

(4) Wagons belonging to the railway company.

To insure that the wagons are not unduly detained in the customers' hands a record must be kept of their movements. An ample supply of wagons is absolutely essential to economical working, and the amount of working time lost through shortage of wagons is at times serious.

WAGON RECORD.—The distinctive numbers of all wagons leaving the colliery are shown upon the Despatch Sheets. In the Wagon Record (Form 17) the numbers of the wagons owned

Form 17.—

WAGON RECORD, Month of.....190..

Wagon Numbers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	&c.	30	31	Wagon Numbers
1851	G	—	—	/	T	—	/	o	Smith	—	—	—	/ Jones	—	—				1851
1852	—	Lane	—	—	—	/	G	—	—	/	o	o	S	—	—				1852
1853																			1853
1854																			1854

In view of railway demurrage charges, it is sometimes desirable to record fuller details than are shown in above Form. This may be done by keeping a card (or page) for each wagon, and recording there in appropriate columns—date and place of arrival, date of ticketting, destination, date of despatch, due date of return, detentions, &c.

by or "tied" to the colliery are listed. When one of these wagons leaves the colliery an entry is made from the Despatch Sheets into the Wagon Record, the date of leaving and the destination of the wagon being shown by an initial or abbreviated name in the appropriate date column. Where the wagons are employed at a number of collieries belonging to the same company, the colliery to which the wagon has been returned, and from which it has been despatched, may be indicated by coloured ink. Lists are prepared daily of empty wagons returned to the collieries, and these lists are sent to the Head Office along with the Despatch Sheets and posted into the Wagon Record, the return being indicated by a diagonal stroke in the proper date column.

The Wagon Book thus records the movements of all wagons, the number of journeys made, the time occupied in each, and the wagons unemployed at any date. Entries are also made in the Wagon Record for wagons under repair. Monthly Statements should be prepared showing the average number of runs made by each wagon.

DEMURRAGE.—Seven or eight days are usually allowed for unloading and returning wagons. After this period the customer is advised of the delay by a post card, stating that should further delay occur a charge for demurrage will be made. Many companies are now employing a special clerk (the "wagon chaser") to trace the wagons and prevent undue delay.

RENDERING OF ACCOUNTS TO CUSTOMERS.

Accounts are generally rendered monthly. A record should be kept of customers' balances in the form of an Accounts Rendered Book, the first column containing the balances of previous accounts remaining unpaid, while the second column shows the unpaid sales of the month just ended. When these accounts are paid they are so marked in the Accounts Rendered Book from time to time.

LEDGERS.

With the exception of the Customers' Ledger, which may be kept in the special manner already described, the Ledgers of a colliery are in the ordinary form and require little description. Under the heading of VOUCHER REGISTER, however, is described a method of dispensing with the ordinary Purchase Ledger.

For balancing purposes it is often found useful to be able to balance each Ledger independently. This may be done by keeping in the Nominal or General Ledger an account for each of the other Ledgers—Sales, Purchases, &c. This account, which is variously known as an Adjustment Account, Controlling Account, Check Account, or Overhead Account, contains the totals of each class of entry posted into the Ledger it represents—*e.g.*, the Sales Ledger Controlling Account commences with the total of the debit balances in the Sales Ledger at the commencement of the period; then follow the monthly totals of the sales postings, and on the credit side of the account the totals of the cash received and discount allowed for customers' accounts during the period. Journal entries, credits, &c., which are posted to the Sales Ledger, are treated in total in the same way, with the result that the balance of the account at the end of the period should equal the total of the Sales Ledger balances then outstanding.

The only difficulty usually experienced in keeping Overhead Accounts such as this is in ascertaining the respective totals of cash posted to the different Ledgers. If, however, a simple columnar Cash Book is used, such as that shown in Form 21, this difficulty will be overcome.

The ordinary advantages arising from the use of Detachable-leaf Ledgers may be secured, but the number of customers in a colliery business does not usually call for such a Ledger.

OTHER LEDGERS.—The form of the Nominal and Private Ledgers requires no special remark. The Nominal Ledger contains the Expense Accounts, and the Private Ledger the Profit and Loss, Capital, and other private accounts. The latter of these books should be provided with a lock and key.

CHAPTER III.

PURCHASES AND PAYMENT OF ACCOUNTS.

PURCHASE ORDERS.—Stores should be ordered only upon an Order Form (Form 18), signed by some official specially authorised to make all purchases. The form bears, *inter alia*, that all invoices are to be addressed to the Head Office, and that they must bear the order number. The orders should be written in duplicate and the second copy filed under the date at which delivery of the goods is desired, or upon which delivery has been promised. In this way the number of unfilled orders, and the date at which a further supply of any class of stores is due, can be readily seen.

It is desirable that where purchases are made by an official who is not acquainted with the position of the finances of the company, there should be some general authorisation of the purchases for the following month, otherwise purchases may be made at a time when the management is not inclined to spend money. A forecast of the probable monthly requirements should be regularly submitted to the directors, and this statement, when approved, forms the authorisation for the purchase of the supplies specified, as and when required. The purchasing clerk is also usually empowered to purchase unexpected requirements up to some specified limit, without special authority.

The functions of a purchasing agent have been well defined as follows:—"(1) To secure the most satisfactory material; (2) to "secure the most desirable delivery of the material; and (3) to

"obtain the best terms of payment and lowest prices." (*Engineering Magazine.*) The method of ordering here described is specially designed to meet these points.

Form 18.—

PURCHASE ORDER.

Order No..... .....19....

Purchase Requisition No.....

.....COLLIERY CO., LIM.

To Messrs.....

.....

Please enter our Order for the following, to be delivered at .....on.....19....

QUANTITY	MATERIAL	PRICE

For.....COLLIERY CO., LIM.

Purchasing Agent.

SPECIAL.

Immediately on despatch of these goods or any part, send Invoice to Head Office, and quote this Order No.

In large collieries the conditions are more complex and the organisation for purchasing becomes more elaborate. Where there are several collieries Purchase Requisitions should be addressed to a central purchasing agent. These Purchase Requisitions (Form 19) are prepared at the colliery by

the stores clerk, and thereafter countersigned by the colliery manager. The counterfoil or carbon duplicate is returned filled up by the purchasing agent when the order is placed.

Form 19.—

No.....

.....COLLIERY.

PURCHASE REQUISITION.

Date.....19....

To Purchasing Agent:

Please furnish the following:—

QUANTITY	DESCRIPTION

Delivery not later than.....19....

.....

Stores Clerk.

.....*Colliery Manager.*

Purchase Order No.....

No.....

To be returned to Colliery.

Stores specified in this Requisition have been ordered for delivery on.....

.....*Purchasing Agent.*

It is better that this counterfoil should make no reference to the supplier with whom the order is placed, so that there may be no communication between the stores clerk and suppliers.

RECEIVING STORES.—The invoices for goods are addressed to the Head Office in accordance with the instructions on the Order Form; they are not seen by the stores clerk, who is

required to forward a complete statement of all goods received. This procedure is much better than leaving the *invoices* to be initialled by the stores clerk, as it ensures that a careful check is obtained upon weights and quantities, and that the invoices are not simply passed mechanically as being "about right." When the goods come in in large quantities it will be found a good plan for the stores clerk to telephone to his Head Office the quantities received according to his counting; this will allow of the quantities being at once verified by the purchasing agent, who immediately instructs a recount if there is any discrepancy in the weights or quantities. In large stores, where the labour of compiling a Goods Received Sheet is considerable, the clerical work may be minimised by executing the purchase orders in triplicate; the third copy being left blank as regards prices and quantities. This copy is forwarded to the stores clerk, who is thus saved the labour of writing descriptions of goods. In the case of collieries, however, this is usually unnecessary, as little time is occupied in writing up the Goods Received Sheet.

In the absence of a full stores system the purpose for which the goods are to be employed should be marked upon the Goods Received Sheet, and the sheet should be certified by the colliery manager before despatch to Head Office.

PASSING ACCOUNTS.—At the Head Office the invoice is checked with the Purchase Order for quantities and price, and with the Goods Received Sheet for quantities actually received. All calculations and additions are also checked. The correctness of these processes should be certified on the invoice by a rubber stamp with spaces for the number of the Purchase Order, the date of the Goods Received Sheet, and the initials of the clerk.

PURCHASE BOOK.—The invoices from each supplier are accumulated to minimise posting, and entered monthly in the Purchase Book (Form 20). The form given is intended for a

Form 20.— PURCHASE INVOICE BOOK for Month of.....19....

Date	No. of Invoice	Name	Ledger Folio	Amount of Invoice	Total	Furnishings: Plywood and Timber	Plant Repairs	Building Repairs	Horseteed and Saddlery	Oil, Lamps and Packing	Ventilation	Railways	Hutches and Wagons	Small Tools and Stores	Sundries	Colliery General Charges	Wagon Hire	Railway Dues and Cartage	Workers' Houses	Depot	Office and Trade Charges
				£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d	£ s d

company owning only one colliery. The columns shown should be further analysed for posting, and the following classification will be found generally applicable:—

Purchase Book Columns.	Ledger Accounts.
Pitwood and Timber	Props Timber
Plant Repairs	Coal Cutters Washers Other Plant
Building Repairs	Building Repairs
Horse-feed and Saddlery	Horse-feed Saddlery Horses and Ponies
Oils, Lamps, and Packing	Oils, Wicks, and Grease Lamps and Fittings Packings
Ventilation	Ventilation
Railways	Surface Railways Underground Railways
Hutches and Wagons	Hutches Wagons
Small Tools and Stores	Small Tools and Stores
Sundries	Electric Energy Wire Ropes Explosives
Colliery General Charges	Taxes Fire and Boiler Insurance Mine Owners' Insurance Stationery and Colliery Charges Surface Damages
Wagon Hire	Wagon Hire Wagon Repairs
Railway Dues and Cartage	Railway Dues Cartage Shipping Charges
Workers' Houses	Workers' Houses
Depôt	Depôt
Office and Trade Charges	Office and Trade Charges

Where there are several collieries a few columns should be devoted to each, and the purchases in these columns analysed monthly under headings similar to those given above; or alternatively a separate Purchase Book may be kept for each colliery.

If a system of Stores Accounts is in use under which the goods are charged up, not when purchased, but when consumed, the form of Purchase Book will be modified, as all goods purchased will be charged against Stores Account and the analysis into the foregoing accounts will be made only when the stores are issued.

Voucher Register.—A most useful modern device is the inclusion of a Date Paid column in the Purchase Book, which then fulfils practically all the functions of a Purchase Ledger. The date of each account paid, as shown in the Cash Book, is posted therefrom to this column, opposite each invoice covered by the payment. Accordingly, at any given point, the invoices against which no paid date appears represent the accounts unpaid and outstanding. The posting of the Purchase Book to a Purchase Ledger is thus dispensed with. If desired, the system can be further extended by the use of two or three Paid columns to classify the payments according to months; it will then be found convenient to reconcile the total of each month's Paid column with the total of the creditors' accounts paid, per Cash Book. Where monthly accounts are paid as regularly as is usually the case in collieries, this form is particularly appropriate. A Purchase Book used in this way is usually styled a Voucher Register or Purchase Record.

Cash Discount.—Any cash discounts received on purchases should not be deducted from the monthly amounts of the invoices entered, but passed through the Cash Book and carried to the credit of Discount Account. Cash discounts are not to be confused with discounts on coal shipped, &c., which are really

deductions from the selling price; and it is desirable that the discount received on accounts paid may be compared with the interest on money required for effecting prompt payment of those accounts.

STORES ACCOUNTS.—So far it has been assumed that no Stores Accounts have been kept; the modifications required by their introduction are treated under the heading of Stores and Cost Accounts.

CASH BOOK.

A ruling for the Cash Book is given in Form 21, designed in a somewhat conventional style and suitable for most businesses. It is recommended, however, that all payments should be made by cheque and all sums received lodged directly in bank; and, where this is done, it will be found possible to eliminate the Bank columns, as the monthly total of payments then represents the amount drawn from the bank, and the total of the receipts represents the lodgments in bank. There are, of course, always some payments which require to be made in cash, and usually some receipts which it is inconvenient to bank; these are entered in the Sundries column. The actual balancing of cash on hand is accordingly restricted to the few items in that column, and is thus much simplified; while the remainder of the Cash Book is practically an expanded transcript of the Bank Pass Book, and is easily verified therewith, both in total and in detail. The principal advantage of this system is in its safeguard against "holding up" remittances from customers. It also facilitates balancing the cash, and there is a small clerical saving in avoiding the necessity of re-entering all bank items.

Another serviceable variation is the use of the Bank column on the *Dr.* side for lodgments, and on the *Cr.* side for withdrawals; this permits of payments and their corresponding cheques appearing in adjacent columns, and facilitates entering and checking.

In some cases a Scroll Cash Book is kept, which is re-written monthly into a faircopy Cash Book, grouping all entries of the same class and extending their total. The use of this form of Cash Book is to be discouraged; the faircopy Cash Book is

Form 21.— CASH BOOK.

Dr.

Date	Name	Folio	Bank	Discount	Sales Ledger	Sundries
			£ s d	£ s d	£ s d	£ s d

Cr.

Date	Name	Folio	Bank	Discount	Purchase Ledger	Nominal Ledger	Sundries

only a copy of a book of original entry, and the re-copying is quite unnecessary.

PETTY CASH.—There will usually be many small items with which it is not desirable to burden the Cash Book, and for these a Petty Cash Book is kept on the Imprest System, with Analysis columns. A cheque for, say, £5 or £10, to meet current petty outlays is drawn in favour of the petty cashier at the beginning of the month, and during the month cheques are drawn for such further round sums as may be required. At the end of each month the petty cashier submits an analysed abstract of his outlays, and a cheque is drawn for the exact amount, thus reimbursing the Petty Cash Fund and enabling the petty cashier to start the following month with his original balance intact. The payments for the month as analysed are then charged to their proper accounts in the principal books.

PAYMENT OF ACCOUNTS.—After checking the monthly statements received from suppliers with the Ledger Accounts or invoices, lists of Accounts Payable are prepared. In the case of a company these lists would be submitted to the directors for approval, while in a private firm the list should be initialled by one of the partners for the preparation of cheques. It is recommended that cheques should be employed for the payment of all accounts, unless very trifling.

The re-copying into the Cash Book of a long list of cheques issued may be dispensed with by posting to the Ledgers or Voucher Record direct from the "List of Accounts for Payment," and entering in the Cash Book the total only of this list. These lists must be suitably filed, and they then combine the functions of certified Lists of Accounts for Payments, Requisitions for Cheques, and Record of Cheques Issued. The following note should appear on each list:—

ACCOUNTS PAYABLE.

On.....190

Compared with Invoices .....
[or Ledger]

Passed by.....

Cheques signed by .....

If the cheques are numerous it may be found a convenience for the directors to grant one cheque for the total amount in favour of a secretary's or manager's account at the bank, that official being empowered to draw the individual cheques against it per the certified list.

VOUCHER CHEQUE.—Many business houses are now adopting a form of cheque which combines with the endorsation a receipt and discharge of the items stated to be covered by the cheque.

Form 22 is a specimen of a common style, though considerable variety is found in the wording adopted by different firms.

It is objected to this form of cheque that the instruction to pay only on presentation of the receipt duly signed acts as a restrictive condition in breach of the statutory definition of a cheque as "an *unconditional* order." It is accordingly possible that, in the event of misapplication, the issuer might lose the right of recourse against the banker which would otherwise be open to him under the special privileges attaching to cheques.

Form 22.— VOUCHER CHEQUE.

MAIN COLLIERY COMPANY, LIMITED.

No. _____ LONDON, *1st March* 1908.

To the A. B. BANK, LIMITED, London.

Pay to _____ on presentation of the annexed receipt duly signed and dated, the sum of _____

For MAIN COLLIERY Co., Ltd.

_____ *Director.*

£ : : _____ *Secretary.*

RECEIVED from MAIN COLLIERY COMPANY, LIMITED, the above-named sum, being in settlement of account as noted below.

January Account ...	£100 0 0	(Signed) _____
Discount	£2 10 0	(Place and Date) _____
	£97 10 0	

CHAPTER IV.

STORES AND COSTS.

IN many parts of the country the thicker seams are becoming depleted, and it has become necessary to develop the thinner and also the deeper seams. This has considerably increased working expenses, as it involves the introduction of more machinery and heavier haulage. With this increasing use of machinery in collieries the conditions approximate more to those of a factory, in which a careful system of *Stores* and *Cost Accounts* is found absolutely necessary for closely following the trading results, for recording the profits and progress from time to time, and for comparing the working of the various departments. In coal mining the comparisons to be made are of results from month to month in the different collieries owned by the same company, and also in the different seams worked in any one pit.

In the case of collieries the individual mine owner has little control over the price to be realised for his coal, and consequently the Cost Sheets are not prepared as a guide in fixing prices, as in other industries. Their greatest importance is in the check which they afford upon extravagance in stores and wages expenditure. It need scarcely be said that the value of any form of Cost Accounts lies in the use to which it is put. The most elaborate and carefully adjusted statistics may be compiled from one year to another without the slightest benefit to the administration; while, on the other hand, a simple and crude system in the hands of a man capable of interpreting its indications may yield most valuable results. In the system of

Cost Accounts outlined below the purpose is to finally present the broad facts which the directors should have before them, while permitting close scrutiny of all details. The general subject of Stores and Working Costs is here considered first, and the special questions arising under Coal Cutting Costs are treated later.

STORES.—Two main systems of Stores Accounts are in use. In the one a complete record of all stores issued is kept, but the results are not incorporated in the commercial books. In the other a Stores Account is kept in the General Ledger, to which all purchases are charged and all stores issued credited, so that the balance on this account at any time represents the balance of stores on hand. The selection of one of these systems depends upon the special circumstances. From a theoretical standpoint the second is certainly preferable, but considerable technical knowledge and clerical skill are required for carrying it out intelligently, and where there is any doubt upon these points the first and simpler form should be adopted, at least in the first instance.

STORES ISSUED.—The procedure for receiving goods into store has already been explained under the heading of "Purchases." Materials are issued by the storekeeper upon signed requisitions stating the purpose for which the goods are to be used. These requisitions are listed by the storekeeper on a Stores Issued Sheet (Form 23), which is analysed daily or weekly to show the total quantities of each class of stores issued. These sheets are priced at Head Office. Where the price of any article stored has changed, the price inserted should be either the price paid for the oldest stock on hand, or the average price, as is most convenient. If the average is taken the prices of stores charged to the pit are nearer to market rates, but the calculation is more troublesome to make. In some cases an

arbitrary increase of 2½ per cent. to 5 per cent. is made over the invoice price to cover handling and waste, but this is not recommended.

Form 23.— STORES ISSUED.

——— COLLIERY.

Stores Issued.....190....

No.	Department	Description	Quantities	Rate	Amount
					£ s d

STORES LEDGER.—It is recommended that the Stores Ledger should be kept in terms of value as well as quantity. It is posted from the Goods Received and Goods Issued Sheets, and is best kept on cards (Form 24), a separate card representing each class of supplies. These cards are grouped under the same heads as the columns in the Purchase Book. The subdivisions may be indicated as follows, but, of course, the extent to which any subdivision is followed depends upon the particulars of the stores held:—

PITWOOD AND TIMBER.
2½in., &c., upwards; Crowns, Lids, Sleepers.

HORSE FEED AND SADDLERY.
Oats, Barley, Hay, Straw, &c. Medicines. Saddlery.

OILS.
Burning Oil, Cylinder, Engine, &c. Tallow, Grease (Hutch, Rope, Wagon), Soap.

LAMPS.
Lamps. Fittings, *e.g.*, Gauze, Glasses.

PACKINGS.
Gutta Percha, India Rubber, Asbestos, Leather, Gaskin, Waste.

HUTCHES AND WAGONS.
Wheels, Axles and Cods. Iron. Bolts and Nuts. Trams.

SMALL TOOLS AND STORES.
Files, Shovels, Axes, Hammers, Edge Tools, Nails, Bolts and Nuts, Washers, Rivets.

The Stores Ledger is, of course, kept at the Head Office, and in many cases it is considered advisable to keep a record of the stores at the colliery in the form of Bin Cards. These cards are practically duplicates of the Stores Ledger Accounts, but take no account of prices or value; they are usually attached to the Bins or sections in which the stores are kept, and hence their name.

Form 24.—

STORES LEDGER.

Account..... Max. Stock ..... Cost.....

Min. Stock .....

Obtained From..... Remarks ..... Quality.....

Date	Quantity	Rate	Value	Date	Quantity	Rate	Value	Balance Quantity	Date	Quantity	Rate	Value	Date	Quantity	Rate	Value	Balance Quantity
			£ s d				£ s d					£ s d				£ s d	

As a check upon the storekeeper, and also upon the correctness of the book records, periodical tests or "stocktakings" should be made from time to time of the actual quantities in stock. The number of cases selected need not be great if they are taken at random and at irregular intervals. Any serious discrepancy disclosed in these examinations should be followed up and an explanation called for.

Where this system of checking the accuracy of the Stores Records is in use the balances standing in the Stores Ledger may for all practical purposes be assumed to be in accordance with the actual stocks on hand. At the same time, for purposes of the half-yearly or yearly accounts, an actual count should be made of all items in store (see below, INVENTORY), and all errors discovered in the Stores Ledger rectified at that time.

STORES GENERALLY.—In large businesses owning several collieries, economies may be effected by centralising the purchasing for all pits at one department, so as to secure the benefit of the cheaper prices obtainable on large orders. A further economy may often be secured by establishing a central store for engineering supplies, small tools, &c., for all the pits. It will almost certainly be found that this permits of smaller stocks being carried than would be required were there stores at each pit. The advantage thus obtained is often under-estimated; not only is there a saving in storekeepers' wages and in storage room, but the stocks can be better controlled and the danger of overloading supplies be guarded against. On the other hand, heavy furnishings—such as pitwood, timber, and rails—should be delivered direct to the pits, as otherwise the cost of transport neutralises any other benefits.

The interest on capital locked up in stores is an important matter, and from this point of view, if from no other, every means should be taken to keep down the stocks, and to that

extent set free capital for more remunerative branches of the business.

INVENTORY.—A detailed Inventory of all the Coal, Stores, Tools, and implements on hand at each balancing date should be taken under the personal supervision of the manager and certified by him. A comparative form of Inventory is sometimes adopted, with the description of each item on the left-hand side, and vertical columns in which to note against the description the quantities and values at each stocktaking. This form has its advantages, but there is a tendency to repeat quantities and values from year to year without fresh consideration. Depreciation on old stock must, of course, be fully allowed, and care be taken not to include in the Inventory any parts or plant charged to Capital Accounts.

Coal itself may be valued at pithead cost, as shown in the latest Cost Sheets, provided such cost is not in excess of market price.

The manager should certify that the total of the Inventory is correct, and that the respective items are taken at or under cost price or market price, whichever is the lower.

COST SHEETS.

The period for which Cost Sheets are prepared is usually the same as the period of paying wages. These statements are incorporated in the Monthly Profit and Loss Accounts, which in turn are reconciled with the regular Half-yearly or Yearly Accounts. In the fortnightly Cost Sheets it is necessary only to compare the output with the working costs of wages and material. In the Monthly Accounts the price realised for the coal is brought into account, as well as general charges, and a figure of profit or loss for the month is arrived at.

An outline of the FORTNIGHTLY COST SHEET is given in Form 25. The tonnage of output is obtained from the Output

Form 25.— FORTNIGHTLY COST SHEET.

.....Colliery. Pay No..... Ending.....190

Standard Rate of Wages per Day..... Output

	Ell			Main			Splint			&c.			Total		
	£	s	d	£	s	d	£	s	d	£	s	d	£	s	d
WAGES (per Pay Sheet).															
Underground:—															
Getting and Loading (Colliers' Wages)															
Transport (Drivers, Roadsmen, and Bottomers)															
Extras (Levels and Narrow Places, &c.)															
Do. (Brushing and Fathomage)															
Do. (as detailed)															
New Works															
Superintendence (Shaftsmen and Oversmen)															
Ventilation (Firemen, &c.)															
Total															
Aboveground:—															
Pumping (Enginemen, &c.)															
Enginemen, Firemen, Screenmen, Pitheadmen, Shifters, and Clerks															
Coal Cleaning															
Tradesmen and Labourers															
Locomotives															
Extras (as detailed)															
Total Wages															
Comparative figures last year (Standard rate.....)															
STORES.															
Props															
Larch Props															
Timber															
Plant Repairs															
Building Repairs															
Horse Feed															
Ponies and Saddlery															
Oils, Lamps, and Packing															
Ventilation															
Surface Railways															
Underground Railways															
Hutches															
Small Tools and Stores															
Electric Energy															
Wire Ropes															
Explosives															
Total Stores															
Boiler Fuel															

	Per Ton		Per Ton		Per Ton		Per Ton

Form 26.—

.....Colliery.

ESTIMATED PROFIT AND LOSS ACCOUNT

For Month of.....190..

	Per Ton	T.	C.	£	s	d
Sales to Customers						
Coal to Washers, Depôts, and Boilers ..						
Total Disposals						
Add Increase or deduct decrease in Stock						
Surplus or Shortage in tonnage ..						
Output and Value						
Wages :—						
Productive..				£		
Oncost above ground						
,, underground						
Pit Manager, Engineer and Office ..						
Stores :— *Actual*						
Pitwood and Timber .. £				*Average*		
Horse-feed and Saddlery						
Sundries						
New Works						
Boiler Fuel						
Royalties						
Colliery General Charges						
Depreciation						
Sinking Fund						
				£		
Profit				£		
Proportion of Selling and General Expenses				£		
Net Profit				£		
Add Profit from Washers						
Depôts						
Railway Dues						
Wagon Hire						
House Rent						
Interest and Discount						
				£		

On completion of the sheets the average price realised for coal is calculated, and the cost of the various items of expenditure per ton of coal. Here, again, the costs should be carefully compared with the figures of preceding months, and any differences thoroughly investigated.

Form No. 26A summarises the Monthly Accounts of each colliery in a way that shows clearly the comparative costs under each heading from month to month and the totals for the half-year. Explanations of special expenditure are given in the Remarks column.

The columns headed "Cost per ton" are computed on the tonnage of disposable output; but some prefer to calculate the rates upon the actual output of the month, whether disposable or not. The point is a debatable one—whether the tonnage for comparison of costs should be inclusive or exclusive of coal that is unsaleable in the market. It seems unsound to calculate costs upon a portion of the output which cannot be sold; that proportion is really a by-product, almost a waste product, and is even exempt from lordship. Nevertheless, it should be included as part of the costs and therefore also of the output.

Where there are several pits a further summary is desirable, collecting the figures of the various pits into a grand total for each month and for the half-year. It is not always necessary that this summary should contain the same amount of detail in the subdivisions of the expenditure, and the columns in the foregoing abstract may be grouped under more general headings to give the amount of detail desired.

While, generally speaking, Cost Abstracts should not be overburdened with details, it may be sometimes found advisable to further analyse portions of the expenditure in order to detect any extravagance or misuse of stores.

Form 26a.—WORKING COST OF.....COLLIERY, COMPUTED ON DISPOSABLE OUTPUT.

Month	Wage per day	Output	Disposals	Underground Wages: Getting and Loading. Colliers' Wages	Transport. Drivers, Roadsmen, and Boatmen	Extras, Levels and Narrow Places	Extras, Brushes and Fathomage	Superintendence. Managers and Overseman	Ventilation. Firemen, &c	Pumping. Engineemen, &c.	Extras as Detailed	Total Underground	Surface Wages: Drawing and Despatching. Enginemen, Pithcadmen, Clerks, &c.	Coal Cleaning	Miscellaneous Repairs, &c.	Extras as Detailed	Electric Energy	Total Surface	Total Amount of Wages £ s d	Cost per Ton £ s d	Remarks
Oct.																					*Resinking *Airway
Nov.																					
Total																					

Trops and Straps	Larch Plywood	Underground Railways	Hutches	Sundry Timber	Sundry Iron	F. and E. Account	Oils, Wicks, and Grease	Ropes	Bricks, Lime, and Sand	Horses and Ponies	Feeding and Medicines	Saddlery	Ventilation	Safety Lamps	Engine Packing	Boiler Fuel	Electric Fittings	Sundries	Surface Railways	Electric Energy (Coal Cutting)	Total Amount of Stores £ s d	Cost per Ton £ s d	Remarks
Stores.																						

It is hardly necessary to add that the value of these Cost Statements varies with the extent to which they are scrutinised and interpreted by the management, and any irregularities or excessive costs traced to their source.

COAL-CUTTING COSTS.

The necessity of economising in cost of production has, as explained, resulted in the substitution of machinery for hand labour to a certain extent; this is specially the case with coal-cutting. As a consequence, the same close attention that is necessary in superintending wages expenditure must be devoted to the operating costs of the mechanical coal-cutters.

The data required comprise a record of the time each machine is in use, with full particulars of interruptions and stoppages, analysed according to their causes, as shown in Form 27.

This form, printed on a stiff card, is filled in daily by each machine-man, and handed in to the office where the calculation of cutting speed (inches per minute) is made. The cards are then filed and summarised on sheets ruled with the same headings, but in vertical columns for ease in adding. A separate sheet is kept for each cutter, and weekly and monthly totals are shown by interlined figures in red. Another method is to use cards similar to the Daily Time Cards above described, but printed in red, or some other distinctive colour; the daily totals are posted to these, and they in their turn are summarised monthly or half-yearly.

Stores supplied and work done to the coal-cutters are abstracted for each cutter from the Stores Issued Sheets and Mechanics' Time Books, under the following headings:—

Engineers' Time.	Oil.
Blacksmiths' Time.	Trailing Cables.
Cast Steel for Picks.	Electric Energy and Fittings.
Iron and Steel.	Wire Ropes.
Coal-cutter Parts.	Sundries.
Repairs.	

Form 27.— COAL-CUTTER REPORT.

COAL-CUTTER No.....

DAILY REPORT by MACHINEMAN. Date 190

At Colliery Pit Seam

Arrived at Face p.m. Left Face a.m. Duration of Shift Hrs. Mins.

Depth of Undercut Ins. Lineal Distance Cut Yards Cutting Speed Inches per Min.

STOPPAGE DUE TO	DURATION OF STOP					
	Hours.			Minutes.		
	Mins.	Mins.	Mins.	Mins.	Mins.	Mins.
MACHINE—						
Preparing to Start						
Machine Deranged						
Changing Cutters						
Haulage and Cable						
Lubricating and Adjusting ..						
Derailed						
Rail Laying and Adjusting ..						
SUNDRY CAUSES—						
Meal Time						
Waiting for Timber						
Waiting for Cutters						
Current off at Bank						
Low Voltage						
Fuse Blown						
Cable Damaged						
Delayed by Brushers ..						
ROOF, FACE, &c.—						
Roof Troubles						
Pavement Troubles						
Coal Bursting out						
Fall on Machine .. .						
Face not Straight						
Coal not Cleared						
Dirt in the Way						
Pack too close						
Props badly set						
Setting Timber						

Note on back of Card any special cause of delay.

Form 28.—

MONTHLY ABSTRACT OF COAL CUTTING MACHINE COSTS,.....COLLIERY.

Machine (No. and Maker's Name).....

Month	Tonnage	Sq. Yards Cut	Machine Men	Main-tenance	Total Cost per Sq. Yard

Machine (No. and Maker's Name).....

Month	Tonnage	Sq. Yards Cut	Machine Men	Main-tenance	Total Cost per Sq. Yard

The data thus brought out, along with the figures from the above-mentioned summary, are carried to a Monthly Abstract (Form 28). The total cost of machine wages and maintenance are there compared with the number of square yards cut, and a rate worked out for each machine per square yard cut.

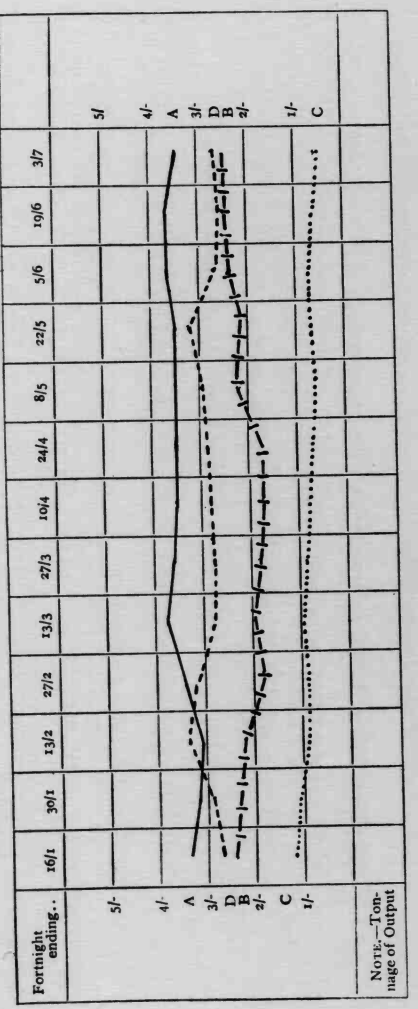
These forms are largely self-explanatory, and may, of course, be modified to suit the special requirements of different collieries; they are designed to focus the results of the working of each coal-cutter in such a way as to facilitate comparison and indicate any slackness or inefficiency.

DIAGRAMS OR GRAPHS.

In recent years there has been a growing recognition of the value of diagrams and charts to represent statistical results. These charts often present in a most forcible manner results which are not otherwise obvious, especially to those who are unaccustomed to deal with figures.

Undernoted are two examples of the method in which such graphs may be used, but their application is almost unlimited. They will be found especially instructive in presenting and focussing the figures and results brought out in the Fortnightly Cost Sheets and the Monthly Profit and Loss Accounts.

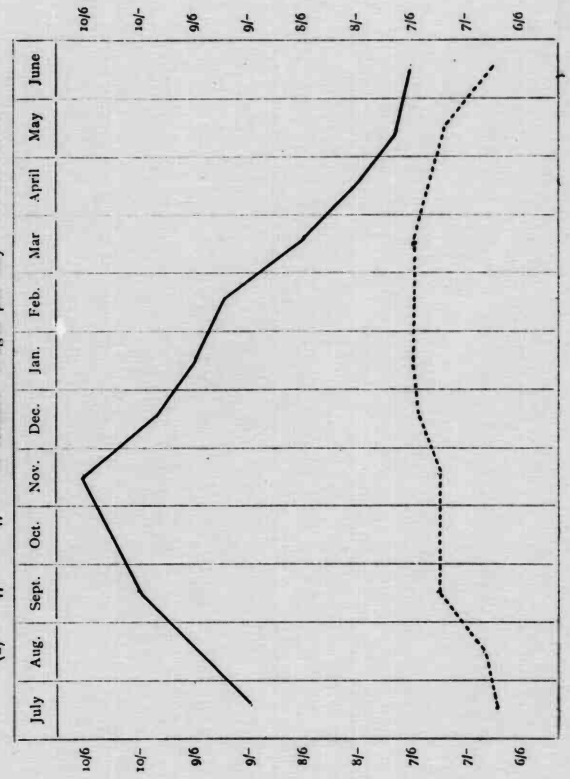
Form 29.— ABSTRACT OF FORTNIGHTLY COST SHEETS for Half Year to 30th June.



Form 30.—DIAGRAM SHOWING FLUCTUATIONS IN

(1) Monthly Average Selling Price at Pithead ——————

(2) " " of Miners' Wages per day .....



CHAPTER V.

CAPITAL EXPENDITURE AND DEPRECIATION.

THE capital expenditure in starting a new colliery may be summarised under two heads:—

(*a*) Development, and (*b*) Equipment.

The former class comprises expenditure which is peculiar to collieries, and calls for special treatment; while the second group consists of equipment differing only in detail from that of other industries. The subdivisions of these groups may be broadly stated thus:—

(*a*) *Development.*

Boring and Sinking Shafts.
Main Roads.
Ventilation and Pumping.
Underground Railways.

(*b*) *Equipment.*

Buildings.
Engines and Machinery.
Winding Ropes and Cages.
Surface Railways.
Locomotives and Wagons.
Screening Plant.
Washers.
Coal-cutters.
Hutches or Tubs.
Horses.
Tools.

DEVELOPMENT.—Development expenditure under any of the above subdivisions may fairly be capitalised until the pit has reached the productive stage. In addition to the expenditure at the pit the office and general expenses incurred during the development period may also be capitalised. The point at which development ceases and production commences is a question

upon which the mining engineer should be consulted. The proceeds of any coal raised during this preliminary stage are credited to Development Account.

The principle of crediting to Interest Account and charging to Capital Expenditure interest upon the capital during development has been much debated; but while the prudence of this course is open to question, the introduction of the principle in certain circumstances has been legalised by Section 91 of the Companies Act, 1908, as follows:—

> "Where any shares of a company are issued for the purpose "of raising money to defray the expenses of the construction of "any works or buildings or the provision of any plant which "cannot be made profitable for a lengthened period, the company "may pay interest on so much of such share capital as is for the "time being paid up for the period and subject to the conditions "and restrictions in this section mentioned, and may charge the "same to capital as part of the cost of construction of the work "or building, or the provision of plant."

There are, however, various conditions attached to this permission, as to which reference should be made to the Act itself.

Expenditure upon development after the date at which production has commenced should not be added to the original Development Account, but should be separately treated. Generally the practice is not to capitalise the expenses of driving side roads to the coal, but where towards the end of a financial year considerable sums have been expended on such development, without yielding any benefit, there may be no objection to taking some credit for them in the Balance Sheet. Any sums capitalised in this way should be written off over a short period against the output from the body of coal made available.

DEPRECIATION AND RESERVES.

The special factors entering into the problem of Depreciation in collieries arise from uncertainty as to the length of the life of the mine. The development and equipment are of full value only while there is a sufficient body of mineral available to meet working expenses and to yield a fair return on the capital invested. In addition therefore to an ordinary depreciation rate upon the whole expenditure to cover *wear and tear* and *obsolescence*, this ordinary rate should be supplemented by a *Sinking Fund* to meet the loss which will arise sooner or later on closing the pit.

Wear and Tear of Equipment.—The most satisfactory method of dealing with depreciation of equipment in respect of wear and tear is to keep a Plant Record. This Record is best kept on cards, one card being appropriated to each item of plant, or allied group of plant. The cards show the original cost, the estimated working life (that is, the time during which the machine may be expected to work without undue expense in the shape of repairs and maintenance), and its residual value at the end of that time. From these data the annual depreciation may be calculated, either by writing off the difference between the original cost and the residual value by equal instalments spread over the working life, or by selecting a percentage rate which, calculated on the decreasing balances, will leave a balance equal to the residual value at the end of the working life.

In dealing with the separate items or groups of plant in this way the circumstances determining the working life are so varied that the rates first selected, however carefully they may have been arrived at, should be revised from time to time. The engineer, when estimating the working life of each item of plant, bases his estimates upon certain assumptions of the manner in which the machinery will be used, and it is essential that after a number of years this estimate should be verified or corrected

by revaluation of the plant. Where a Plant Record is not kept the assets may be grouped into classes, and an overhead rate of depreciation applied to each class.

While it is impossible even to suggest satisfactory rates for all occasions, depreciation calculated at the following rates will probably be found adequate. These rates are calculated *on the balances as diminished by depreciation* from year to year, and in each case it is assumed that all repairs and renewals are made good out of revenue:—

	Maximum	*Minimum*
Buildings	5%	2%
Engines and Machinery	10	7½
Boilers	15	10
Surface Railway	10	7½
Locomotives	15	10
Screening Plant	7½	5
Washers	7½	5
Coal Cutters	30	20
Hutches	20	15
Wagons	10	7½

Depreciation of horses is dealt with by annual revaluation (see under "Horses"), as are also small tools and stores.

Obsolescence.—The risk to be provided for under this head is the introduction of new inventions which may render existing plant ineffective; not because it is worn out, but because in competition with the new it is no longer profitable to work. Plant when once superseded may prove unsaleable except as scrap. It will be readily understood that this risk is most difficult to measure or to value, but its reality cannot be doubted. In practice the most convenient method of dealing with it is to interpret liberally the amount of depreciation to be written off for wear and tear.

Development Sinking Funds.—In addition to the methods described above, other and less usual methods of providing for depreciation are by *Sinking Fund* and *Annuity*. The provision to be made for writing off the Development cost is best

effected by means of a Sinking Fund, which should also provide for any shrinkage in value of the Equipment occasioned by the exhaustion of the pit.

Many of the assets which are of value so long as the pit is being profitably worked, lose practically their whole value immediately the pit is closed. This arises from their attachment to the pit, and the impracticability of removing them elsewhere. Included in this group are Buildings (exclusive usually of colliers' houses), Surface Railways, the Shafts, and the Main Roads. On the other hand, much of the Plant, and all the Tools, Horses, &c., can be sold.

In considering the amount to be provided the terms of the colliery lease must be closely studied, as it generally includes stipulations regarding the condition in which the ground must be left at the end of the lease. For instance, it is often required that the lessee should remove buildings, level all heaps, and clear the soil sufficiently to allow of the ground being cultivated, or used for any other purpose the lessor may desire. Alternatively the lessee may be required to pay a certain sum per acre in lieu of restoration. This expenditure is in the same category as development, and accordingly the Sinking Fund must provide for it also. The provision for Sinking Fund must therefore, in the nature of things, be largely based on estimates. The following are the factors that enter into its calculation:—

A. Expenditure in sinking and developing the pit, provision for shrinkage in value of the equipment, and estimated cost of future restoration of the surface, or payment in lieu thereof.

B. The probable quantity of mineral made available by such capital expenditure.

C. The probable life of the pit.

The first can be closely estimated, but all three should be calculated with the assistance of the mining engineer.

METHODS OF CALCULATING THE SINKING FUND.—(1) The simplest method of calculating the annual amount to be reserved is to divide the total sum to be provided (A) by the probable life of the mine (C), or by the number of years for which the lease is held. The only merit of this system is its simplicity: it makes no allowance for variations in the output of the pit from year to year, and no provision for interest accruing on the fund thus accumulating.

Other and better methods are the following:—

(2) Ascertain the sum to be set aside annually, which with interest upon the accumulating fund will amount at the expiry of the time (C) to the capital sum aimed at (A).

This involves a simple actuarial calculation which should occasion no difficulty.

(3) A more satisfactory plan is to calculate the reserve upon the basis of *output*—that is to say, estimate the rate per ton of coal raised which will in the required time provide the necessary Sinking Fund. This may be expressed by the fraction $\frac{A}{B}$—viz., the total capital outlay divided by the total tonnage of coal made available. This will give a rate per ton which, multiplied by the number of tons raised each year, gives the contribution to Sinking Fund chargeable against the profits of that year. This method excludes considerations of interest, but creates a reserve in direct proportion to the output—a fairer measure than a time basis.

(4) The rate may be still further adjusted by introducing the effect of interest. The calculations may be made approximately (but only approximately), thus:—Ascertain the *present value* of the capital to be provided for by the end of the period (lease or otherwise), and divide that figure, instead of the capital sum, by the total tonnage to be raised. The resultant rate per ton, calculated year by year upon the tonnage raised, and accumulated with interest, should amount approximately to the capital sum aimed at, provided, of course, that the estimates of A and B prove to be fairly accurate.

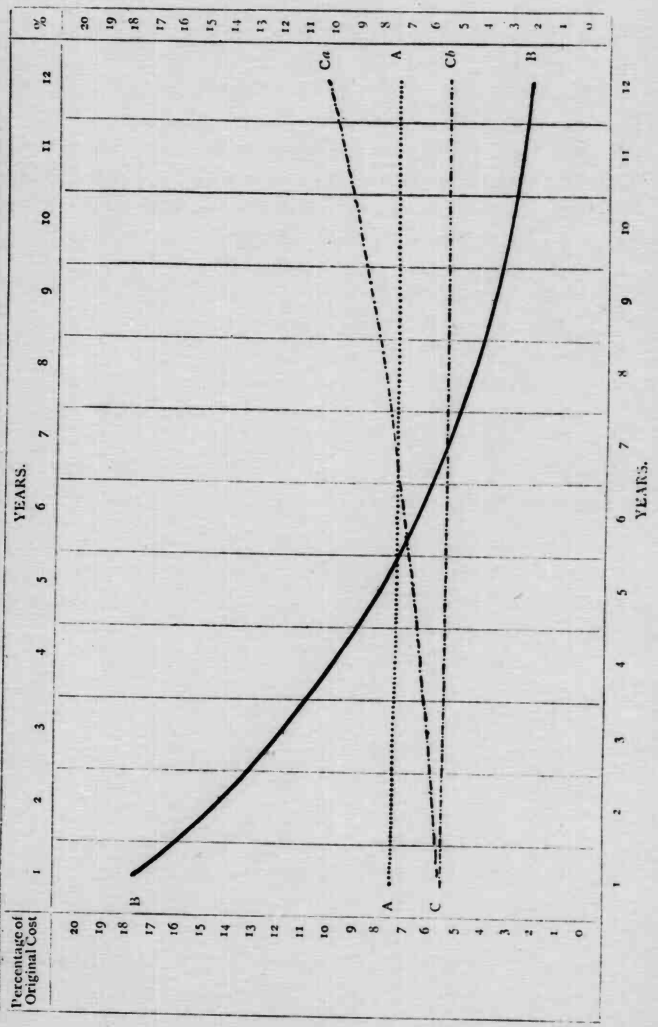
The instalments of the Sinking Fund may be either retained in the business or specifically invested in outside securities. Where they are invested in specific securities the treatment of the interest on the investment will depend upon which of the foregoing methods has been adopted. If no account has been taken of interest in the calculation the dividends should be carried to Profit and Loss Account. If, on the other hand, the operation of interest has been anticipated in the rates of Sinking Fund provided, all dividends or interest credited must be carried to the Sinking Fund Account. Under the first method, in later years where the cost of working is heavier and the yield of coal less, the increasing interest derived from the Sinking Fund forms a considerable contribution to profits.

COMPARISON OF SINKING FUNDS.—The differences in the incidence of the charges for Depreciation and Sinking Fund under the various methods above described are graphically shown by the diagram given below.

The length of the working life in the example is assumed at twelve years, and the residual value at the end of that period 10 per cent. The dotted line A A represents the equal instalment plan, under which 7½ per cent. of the original cost is written off each year. Line B B represents the yearly amounts to be written off if the allowance is calculated upon the decreasing balances—viz., 17½ per cent. thereon.

The third line (C C*a*) shows the amount (5½ per cent. upon the original cost) which, with the accumulation of interest, will provide at the end of the period the necessary reserve; the space between the lines C*a* and C*b* represents the accumulated interest.

Form 31.— EFFECT OF DIFFERENT METHODS OF PROVIDING FOR DEPRECIATION.



The area between the base line and each of the lines AA, BB, a-d C C*a* respectively represents the amount of depreciation written off per £100 of original cost, in each separate year and over the whole period of twelve years. The total area between the base and each of the three lines respectively is, of course, the same in each case, as the calculations by the different methods are made to provide for the same amount of Depreciation or Sinking Fund.

The difference between the results obtained by calculating depreciation upon the original cost and upon the decreasing balances is here clearly shown:—For the period covered by this example a rate of 7½ per cent. is sufficient under the first method, while 17½ per cent. is required under the second.

Justification of the second method is to be found in the fact that during earlier years, when the cost of repairs is slight, it allows the burden of depreciation to fall more heavily; while in later years, where even with frequent repairs the efficiency of the plant is impaired, the depreciation charge is much reduced.

CHAPTER VI.

ROYALTIES, INCOME TAX, Etc.

ROYALTIES.

THE provisions in colliery leases for the payment of royalty vary greatly. In most cases it is calculated as a rate per ton for all coal, or at different rates for different seams, but in some cases it is calculated as a fixed proportion of the cash value realised from the sales. Where for royalty purposes details are required of the tonnage mined from different seams this information will be specially recorded in the Output Books, as already explained.

SHORTS.—The main problem arising in connection with royalty is in reference to the treatment of "shorts." The lease generally provides for a minimum annual rent, known as the Fixed Rent, or Dead Rent, which is payable each year, irrespective of the amount of coal worked. This is subject, however, to the proviso that, should the royalty on the coal actually worked in any year fall short of the amount of this fixed rent, the difference, known as "shorts," may be worked up within a specified period. The question to be determined in each case is whether there is reason to believe that sufficient coal will be worked during the prescribed period to permit of the shorts being extinguished, and consequently whether the royalty paid as shorts may be considered as an asset. In deciding this question it is necessary to obtain an estimate from the mining engineer of the tonnage of coal to be made available within the period, and the probable yearly production. Where this justifies the view that the amount of shorts will be recovered, the year's

accounts are charged only with royalty on coal actually raised during the period, and the excess of the fixed rent over this amount is carried forward.

COMPENSATION.—Another matter usually provided for by the Lordship Agreement is the question of compensation to the landlord or his tenants for damages through any subsidence of the surface caused by the working of the minerals. If there is any possibility of claims arising for such compensation, a reasonable reserve should be laid aside to provide therefor, preferably by way of a percentage on the coal worked out of the area affected. (See also Sinking Funds, *supra.*)

WAY-LEAVES.—A way-leave is a charge sometimes levied upon coal drawn through land belonging to other proprietors than the principal landlord. It is calculated at a rate per ton upon the coal drawn through such lands, the tonnage of this coal being readily ascertained from the Abstract of Despatches.

RENT.—Where a colliery owns the ground in which its mine is situated the assessed rental, or an equivalent royalty, should be charged in the name of rent or lordship. This sum is credited to the Freehold Rents Account, and charged against the Colliery Trading Accounts in the same way as any other royalty.

MUTUAL INSURANCE ASSOCIATIONS.

The liability to pay compensation to injured employees is generally insured with one of the Insurance Companies or Coalmasters' Mutual Associations. The latter levy contributions under two heads, viz.:—Ordinary Fund and Reserve Fund. A portion of the Reserve Fund premiums accumulated over a specified period, and not exhausted by claims, is usually repayable, but it is not advisable to take credit for such rebate premiums until actually received, as up to the last moment a catastrophe might absorb the whole

premiums. A book may be kept with advantage for recording in tabulated form the details of accidents and payments of compensation in respect thereof, with columns for special cases—*e.g.*, for commutations and fatal accident claims. The total amounts paid are reconciled with the Ledger Account each half-year, and any balance on that account should be verified with the amounts paid out but not recovered at date of balance.

INCOME TAX.

Income-tax is theoretically not a charge against profits, but is the proportion of the profits falling to the State. The amount of the profits liable to assessment is ascertained on principles laid down by various Acts of Parliament, and in most cases differs considerably from the profits available for distribution among partners or shareholders.

Briefly stated, the amount assessable is the estimated profit of the current fiscal year, based upon the average assessable profits of preceding years. In collieries the amount is assessed under Schedule A, though calculated on the lines laid down for Schedule D, and based upon the average of the preceding five years.

Profits for assessment purposes must be stated without any deduction in respect of Interest on Capital, Partners' Salaries, Ground Rent, or other payments from which tax has been retained. The following will be found a convenient form in which to frame the accounts for this purpose:—

Form 32.—

Income-tax Return for 1908-9	1903	1904	1905	1906	1907
	£	£	£	£	£
Profits for 5 years preceding 5th April of the current fiscal year, per Trading and Profit and Loss Accounts ..					
Restore amounts charged in these accounts in respect of:—					
(*a*) Interest on Capital					
(*b*) Partners' Salaries					
(*c*) Interest on Loans, Railway Sidings, &c, paid under deduction of tax..					
(*d*) Rent and Royalties paid under deduction of tax					
(*e*) Depreciation of Plant and Buildings					
(*f*) Income-tax					
(*g*) Charitable Subscriptions ..					
Total					
From these totals there should be deducted any items carried into the Profit and Loss Account which have already been taxed—*e.g.*:					
(*a*) Rents received from Colliers' Houses (taxed under Sch. A) £					
(*b*) Dividends and Interest on Investments ..					
(*c*) Royalties received ..					
Leaving net assessable profits for the five years .. .. .. £					

The average is taken of the five years' profits so brought out, and from this average the depreciation on plant is deducted (see below), leaving the net amount upon which income-tax is payable.

Usually the surveyors give every facility for adjusting the returns of the taxpayer; but if the matter cannot be satisfactorily adjusted, the latter has the right of appeal to the General Commissioners for the district. Should the taxpayer prefer not to

disclose his profits to the General Commissioners, who are usually prominent local gentlemen, he is entitled to appeal to the Special Commissioners appointed by the Board of Inland Revenue from London, but this course is seldom adopted.

DEPRECIATION FOR INCOME-TAX.—The adjustment of the amount of depreciation to be deducted involves some difficulty. The Customs and Inland Revenue Act, 1878, Section 12, directs the Commissioners to allow such deduction as they may think just and equitable as representing the diminished value of machinery and plant by reason of wear and tear during the year. There is thus no standard rate of allowance for wear and tear, but the general practice seems to be to allow 5 per cent. upon the value of the colliery plant as diminished yearly by depreciation; in special cases higher rates are frequently allowed. The figure of machinery and plant for income-tax purposes does not necessarily agree with the figure standing in the books, as the depreciation written off in the company's accounts from time to time will probably exceed that allowed by the Commissioners. It should be noted that the depreciation is not averaged, but, being an allowance *for the year*, is deducted from the average profit ascertained as above.

It is important to claim each year the allowance in respect of wear and tear, although there may be no assessable profits, as the depreciation allowance has been made cumulative (Finance Act, 1907), and any part not absorbed by the assessment of one year may be carried forward to succeeding years.

Where *renewals* of plant are charged to Revenue the Inland Revenue Authorities allow no deduction for wear and tear.

ALLOWANCE FOR OBSOLETE MACHINERY.—Although there is no provision in the Income-tax Acts for any allowance in respect of obsolescence as distinct from wear and tear, there is a reasonable concession contained in the instructions issued to the surveyors on 28th May 1897, by the Chancellor of the Exchequer,

to the effect that "no objection is to be taken to the allowance "of so much of the cost of replacement as is represented by the "existing value of the machinery replaced. Any excess in the "cost of the new machinery over the old is an addition to the "capital of the business, and cannot properly be regarded as a "charge upon revenue for the purpose of income-tax assessment."

OTHER DEDUCTIONS.—It was held in the *Ebbw Vale Co's* case that the payments to Coal Owners' Associations, being in the nature of special insurance, and not necessary for actual working, could not be allowed as deductions in arriving at assessable profits.

Pit Sinking.—Difficulty may be found in adjusting the amount to be deducted in respect of the cost of pit sinking and other development expenses. On this point there have been several important decisions in the Courts, notably that of the *Coltness Iron Co.*, which was carried to the House of Lords in 1881. It was held that the company was not entitled to deduct from the assessable profits an annual instalment, calculated at a fixed rate per ton of coal sold, and estimated to represent the amount of capital expended on sinking pits which had been exhausted by the year's working.

GENERALLY.—The effect of the five years' average must be carefully considered, as the incidence of it may result in small amounts of tax being payable in the most profitable years, and heavy taxes arising from those profitable years being charged in lean years. It is advisable, therefore, in a period of prosperity to lay aside a sum sufficient to meet the probable amount of tax payable in future years in excess of the normal amount paid.

It should be noted that, where the same partners carry on two or more businesses, a loss in one business may be set off against profits in another, although the businesses are carried on as separate concerns.

CHAPTER VII.

AUXILIARIES—WAGONS, Etc.

WAGON ACCOUNTS.

WAGON HIRE ACCOUNTS form an important subsidiary part of the accounts of most collieries. The subject deserves most careful treatment—more than is usually given to it—as too frequently the profit or loss arising from the hire or ownership of wagons is not distinguished from the profit or loss on coal, and a weakness (or source of revenue, as the case may be) is lost sight of in the "slumped" results of the whole business.

Wherever wagons are owned, absolutely or under hire-purchase agreement, or hired by the colliery, a Wagon Hire Account is necessary; and in cases where wagons are owned or held under hire-purchase agreements Wagon Revenue and Wagon Capital Accounts should also be kept.

When wagons are purchased outright the treatment of the Capital Account is simple; the whole price is charged to Wagon Capital Account, and at each balancing period depreciation is written off this account and charged against the Wagon Revenue Account. The rate of depreciation is largely a question of circumstances, depending on the price and condition of the wagons and the number of years during which they can be profitably used. Depreciation at the rate of 7½ per cent. to 12½ per cent. per annum written off the diminishing value will usually be found adequate.

HIRE PURCHASE.—The usual "hire-purchase" agreement provides for payment of fixed instalments extending over several

years, in respect of which the wagon company supplies the number of wagons agreed upon; after payment of the instalments, and a small nominal sum to complete the purchase, the wagons become the property of the colliery company. Each of the instalments consists of a payment to account of the price, together with the periodical interest on the unpaid balance of the price. A calculation is made of the amount of capital and of interest included in each instalment, the former being chargeable to Wagon Capital Account and the latter to Wagon Revenue Account.

If the rate of interest charged by the wagon company is known the calculation is a simple one; the amount of capital included in the first instalment being the Present Value of the last instalment as at the date of the commencement of the contract; the capital contained in the second instalment is the present value of the second last instalment as at the commencement of the contract, and so on.

The following is a table of instalments expressed in the usual symbols, where v represents the present value of £1 due at the end of one period (year or half-year, &c.), and n the number of instalments:—

Instalment No.	Each £1 of the instalment consists of	
	Capital	Interest
1	v^n	$1-v^n$
2	v^{n-1}	$1-v^{n-1}$
3	v^{n-2}	$1-v^{n-2}$
&c.	&c.	&c.
$n-2$ (3rd last)	v^3	$1-v^3$
$n-1$ (2nd last)	v^2	$1-v^2$
n (last)	v	$1-v$

On application the wagon companies will usually state the rate of interest employed; but if the rate is not known, a calculation sufficiently approximate can be made with the aid of a table of Annuity Present Values. Thus, if an agreement is made for the purchase of 100 7-ton wagons for twenty-four half-yearly instalments of £325 each, and the cash price is £55 each, or £5,500, the present value of each £1 of the annuity is £5,500 ÷ 325—*i.e.*, £16.923. The nearest value in the tables is £16.935, which is the value of an annuity calculated at 6 per cent. per annum, payable half-yearly. For all practical purposes the rate of 6 per cent. may be taken as sufficiently accurate, and the following apportionment is thus obtained:—

Instalment No.	Capital	Interest	Total
1	£159·708	£165·292	£325
2	164·505	160·495	325
3	169·445	155·555	325
4	174·534	150·466	325
&c.	&c.	&c.	&c.
22	297·251	27·749	325
23	306·174	18·826	325
24	315·384	9·616	325
	£5,500·000	£2,300·000	£7,800

By another and less accurate method of apportionment the ordinary cash purchase price of the wagons is divided by the number of instalments falling to be paid, and the amount so ascertained treated as the capital portion of the instalment and the balance as interest. Any such allocation is clearly erroneous, as it disregards the fact that each instalment paid reduces the balance on which interest is payable. The extent of the error will be seen on referring to the example given above.

It is sometimes recommended that at the date when the contract for hire-purchase is entered into, the total sum payable over the period should be debited to Wagon Capital Account and credited to the wagon company. Exception may be taken to this method of statement, on the ground that the ownership in the wagons does not pass until the last instalment is paid, and meantime the figures of assets and of liabilities are thus overstated. When it is desired to pass the total price through the books the objection may be overcome by deducting therefrom in the Balance Sheet the instalments remaining unpaid from time to time.

Instalments under hire-purchase agreements are, of course, forfeitable if ensuing instalments are not regularly paid, and therefore the capital contained in these payments may be entirely lost. There is accordingly a *contingent liability* to the extent of the net valuation of these wagons as appearing in the Balance Sheet. The circumstances should be made clear in the Balance Sheet, either by an explanatory note or by showing the net value of the wagons under deduction of the portion of capital unpaid.

Wagon Revenue Accounts.—Dealing next with the Revenue Accounts for the wagons: the earnings arising from their ownership should in all cases be kept distinct from the amounts charged for coal, as explained under the heading of "Sales." The total of these wagon earnings is credited to Wagon Hire Account. Against this account there will be charged the rent of the wagons and repairs (wages and material). The balance of the account will show whether the expense of the wagons has been fully recovered from the customers.

As a further refinement Wagon Hire Account may be divided into (1) Wagon Hire Account, and (2) Wagon Revenue Account. The former of these accounts is credited with the total hires charged to customers, and is charged with the rent paid to the wagon companies, and also an estimated figure of rent for the wagons owned by the colliery company. This estimated rent

will, of course, be calculated at the same rates as would be charged by the wagon company for the use of wagons of the same carrying capacity. The balance of the account shows whether the cost of *renting* the wagons employed by the company has been recovered from customers, leaving to the second account the result of the *ownership* of the wagons.

In this Wagon Revenue Account the Rents charged above upon the wagons, either owned by the colliery or held by it under hire-purchase agreements, are credited, and the expenditure for Wages, Material, Repairs, and Depreciation is debited. The balance of this account consequently represents the profit or loss falling to the colliery company as *owner* of the wagons, as distinguished from the *employer*. The position is analogous to the Rental Accounts prepared for the colliery houses.

In practice it will be found that as time goes on, and the unpaid portion of the price decreases, the interest charge included in the instalments decreases also, but this is counterbalanced by a heavier cost of repairs.

Form 33.—

EXAMPLE OF WAGON ACCOUNTS FOR HALF-YEAR.

Assume the Company rents (or hires) 100 Wagons, owns 90 10-ton Wagons, and holds 200 12-ton Wagons under Hire Purchase Agreements.

Dr. WAGON HIRE ACCOUNT. *Cr.*

1907		£ s d	1907		£ s d
June	British Wagon Co., Lim.—		Jan.	Hires charged to Customers per Day Book column ..	170 0 0
	Rent of 100 Wagons for six months ..	300 0 0	Feb.	Ditto	220 0 0
	Repairs of rented Wagons	20 0 0	Mar.	Ditto	200 0 0
	Wagon Revenue Account for rent of 290 Wagons ..	780 0 0	April	Ditto	180 0 0
	Balance:		May	Ditto	240 0 0
	Profit on Hiring for half-year carried to P. & L. A/c. ..	100 0 0	June	Ditto	190 0 0
		£1,200 0 0			£1,200 0 0

Dr. WAGON REVENUE ACCOUNT. *Cr.*

1907		£ s d	1907		£ s d
June	Repairs of owned and H.P. Wagons (wages)	55 0 0	June	Wagon Hire Account for half-year's rent of 290 Wagons, viz.: 90 at 6/8 per month	
	Materials for repairs— per Purchase Book	250 0 0		200 at 10/- „	780 0 0
	Interest included in H.P. instalments ..	100 0 0			
	Depreciation	250 0 0			
	Balance:				
	Profit on Ownership of Wagons (5 per cent. on capital invested)	125 0 0			
		£780 0 0			£780 0 0

Dr. WAGON CAPITAL ACCOUNT. *Cr.*

1907		£ s d	1907		£ s d
Jan.	Balance, viz.:—		June	Wagon Revenue Account, Depreciation for half-year ..	250 0 0
	90 Wagons owned, say	900 0 0		Balance carried down	2,250 0 0
	200 Wagons H.P. on which paid up, say	1,200 0 0			
June	Capital included in H.P. instalments paid	400 0 0			
		£2,500 0 0			£2,500 0 0

WASHERS.

The accounts recording the working of coal washing plant should be framed so as to show the net amount of any benefit arising from their use, and for this purpose they should be treated as an independent account. Briefly:—

(1) Dross sent to the washers is charged through the Sales Day Books to Washer Account at the average market rate for the month. This applies to the *gross* tonnage of dross sent to be washed.

(2) Sales of washed coal, distinguished as "nuts" (whether trebles, doubles, singles, or pearls), and the refuse from the washer (variously known as gum, duff, &c.), are entered along with the other sales in the Sales Day Book for that colliery, and the gross totals carried to a separate "Washer" column and credited to Washer Account at realised prices.

(3) The refuse is to some extent used for the pit engines. It should also be entered in the Washer Sales column in the Day Book and charged to Engine Fuel Account.

These Day Book entries record the value of what is sent to the washers, and the value realised therefor after washing. The other items which fall to be charged relate to the expense of operating the washer, and include:—

(*a*) Wages of all men employed directly in its working (charged through Cash Book fortnightly per Wages Sheet).

(*b*) Fuel or charge for power used in operating the washer.

(*c*) Repairs and upkeep of the washing plant (charged from Purchase Book and Stores Issued Book).

(*d*) Depreciation on its cost, say at the rate of 5 per cent. to 7½ per cent. per annum on the diminishing value.

(*e*) Proportion of Management Expenses.

Form 34.— WASHER COST SHEET for Month of.....19....

.....COLLIERY.

	T.	C.	Cost per Ton s	d	Total Cost p. Tn. s	d	£	s	d
Dross received from Collieries ..									
Wages, Men at Washer									
" " Locomotive ..									
" Labourers and Tradesmen									
" Men at Boilers									
" Foreman									
Total Wages ..									
Stores used by Washer									
" Locomotive									
Fittings " Washer									
" Locomotive ..									
Coal " Washer .. .. Tons @									
" Locomotive									
"									
Total Materials ..									
Depreciation on Washer									
" Locomotive ..									
Management—proportion ..									
Total Cost ..									
Surplus									

	Quantity Washed Tons	C.	%	Sales Tons	C.	Amount Realised	Pence per Ton	Price per Ton £	s	d
Trebles ..										
Doubles ..										
Singles ..										
Pearls ..										
Peas ..										
Gum ..										

Items (*a*), (*b*), and (*c*) for Wages, Fuel, and Repairs will be charged direct through the subsidiary books, as incurred, in the ordinary course; the other items should be adjusted at each half-yearly balancing period. They should also be taken into account in the fortnightly Cost Sheets.

The result brought out by this account, whether surplus or deficiency, of course depends much upon the price at which the dross is charged to the washers; but taking a price at which the whole quantity sent could probably have been otherwise disposed of, unwashed, the account will show what gain (or loss) has resulted from the use of the washer.

The surplus, representing interest on the capital invested, is carried to the Profit and Loss Account of the colliery to which the washer is attached. The Washer Cost Sheet (Form 34) shows month by month the data brought out as described above.

SALES DEPÔT ACCOUNTS.

An abstract of the depôt transactions should be sent to Head Office daily (Form 35). This sheet is ruled to show (1) the Sales of Coal, (2) details of charges for Cartage, &c. The sales are entered at the Head Office from this Daily Abstract into a Depôt Day Book, similar in form to the Colliery Day Book first described, and posted to a Customers' Ledger. The total sales are credited to the Depôt Profit and Loss Account, which is debited in the ordinary course with the coal sent from the pit, wages and expenses at the depôt, and also with a proportion of the Head Office salaries. The particulars of petty expenses are shown in the form of a note each day on the Depôt Sheet.

COLLIERS' HOUSES.

The accounts in connection with houses owned by a colliery for the accommodation of its employees must be kept distinct from the Mining Accounts, so that the return upon the capital invested may be correctly and clearly ascertained.

Form 35.— SALE SHEET at.....DEPOT..... .....190....

Carter's Ticket No.	Name	Residence	Remarks	Best Coal	Second Coal	Trimmings	Trebles	Doubles	Singles	Dross	Carted by	Cartage	Porterage	Police Weighing	Value £ s d	Cash Sales £ s d

Balance Brought Forward .. .. .. £ .. .. ..

A RENT ROLL is drawn up giving in appropriate columns the numbers of the houses, their occupants, and the rents due per week, month, or year; other columns may be used to include fire, coal, &c., and the amounts received from the tenants in each period otherwise than by deduction from the Pay Sheets. The total of the "Rents" column for each half-year is debited to Workmen's Rents Account and credited to the House Revenue Account in the Ledger.

Where "free houses" are provided for certain employees the assessed rent for each period is debited to Salaries or Wages and credited to the House Revenue Account. It will be readily understood, for example, that where a house is kept for a manager, whose remuneration includes a "free house," that expense forms part of the Salaries Account, and should not be charged to the Rent and Taxes Account of the colliery. The House Revenue Account should agree with the Rent Roll, after making due adjustment of any arrears or unoccupied houses.

The debit side of the account will contain details of Repairs and Upkeep, Rates and Taxes, Ground Rent, and other charges incurred in connection with the houses, and rents paid by the colliery for any of the houses leased by them, all posted from the Purchase Book, Stores Book, and Cash Book in the usual way. Where many houses are rented by the colliery company and sublet to miners a separate account should be kept to show whether the rental is fully covered.

Depreciation should be written off the cost of the houses owned by the colliery, at rates varying in ordinary cases from 2 per cent. to 5 per cent. of the cost. Specially high rates of depreciation are, however, sometimes required, *e.g.*, in cases where the houses would be difficult or impossible to let or sell upon the closing of the pits, or where there exists any special liability to subsidence of foundations. The depreciation is charged against the House Revenue Account, and in cases where

there is much clerical work involved in collection, &c., some charge may also be made for salaries. The balance of the account (as explained in the case of Wagon Revenue Account) will then represent the return on the capital invested, and will afford data upon the relative results of owning, and of renting, houses for employees, or of leaving others to provide them.

SURFACE RAILWAYS OR SIDINGS.

In certain cases colliery companies maintain private railways to form connections with other pits or the main line. The expense of maintaining and working these lines is debited to "Surface Railways or Sidings Account," and would include Repairs to Track and Locomotives, Wages of Drivers, Firemen, Shunters, &c., and Depreciation. The total expense should be met by charging an estimated tonnage rate on all mineral drawn over the lines, according to the distance. It will be found advisable to revise these rates from year to year, so as to provide as nearly as may be for the whole expense.

HORSES AND PONIES.

Where a large number of horses or ponies are kept for the various pits all stable expenses are sometimes charged to a Horse Keep Account, and the various pits are charged each week or fortnight with their proportionate share of the total expense, calculated at an average rate per horse employed. This rate is based upon past experience, with any modifications for increased cost that may be considered necessary. The principal objection to this system is that it does not keep a check upon the expenditure at each pit, nor permit of comparisons between the various pits. The preferable course is to charge each pit separately with the actual cost of upkeep of the stable stock employed at it.

It is recommended that a Register or Card Record should be kept (Form 36) of all horses and pit ponies. This record contains particulars of their names and numbers, the latter being printed or stamped on the hoof; also their height and colour, the seller and cost. Other columns contain particulars of sales, deaths, and notes as to value.

Form 36.—

HORSES AND PONIES, Year ending .....190....

Date Purchased	Where Working	Purchased from	Name	No.	Height	Colour	Cost £ s d	Depreciation £ s d	Value £ s d	Remarks

CHAPTER VIII.

PROFIT AND LOSS ACCOUNTS AND BALANCE SHEET.

THE whole system of accounts is focussed in the Profit and Loss Account and Balance Sheet, which it is recommended should be prepared half-yearly. The items appearing there are developed from the subsidiary books already explained, but it may be well here to recapitulate these and to touch upon several points not previously dealt with.

The Profit and Loss Account is framed with a view to utilising and displaying in the clearest way the information which has been accumulated in the books.

Two forms are given. The first (No. 37) embodies the accounts of a single colliery; and the second (No. 38), the accounts of a business comprising several pits.

Form 37.—The credit side commences with the total *Sales* for the period, as shown in the Sales Account or the totals of the Day Books; this includes the coal sent to washers and depôts and the dross used for boiler fuel at the pits. This figure of sales is increased or reduced by adjustment of the increase or decrease in the coal stocks during the period, the effect being to exclude from the sales for the half-year any despatches out of coal previously raised, and to take credit for stocks on hand unsold at date of balance. This adjustment does not, of course extend to the *profit* or *loss* that may be realised on the sale of the stocks of coal carried over from one

half-year to another; but if the stocks are valued on a conservative basis, it is reasonable that the profit realised on them should fall into the half-year in which the sales are made.

Discounts and allowances made in respect of coal sold may be deducted from the total of the sales.

The results of the working of the *Washers* and *Depôts* follow next. As these results are largely dependent on the prices at which the coal has been debited to them they may be added to or deducted from the figure of sales brought out as above. The net resultant amount represents the value of coal raised during the period.

Against this, and upon the debit side, are grouped, first, the direct expenses of winning the coal. These items should occasion no difficulty. The first four are obtained from the analysis of the Wages Sheet, as previously explained. The other items have also been fully dealt with, but care must be taken that full allowance is made in the case of Wages, Lordship, and Rent for the proportions of each due but unpaid, or accrued but not due, credit being taken for any rates or charges paid in advance and unexpired.

The difference between the debit and credit items to this point will represent the gross trading profit (or loss) for the period.

From such profit deductions are next made in respect of *Selling Expenses* and *General Charges*. The details of these call for no further comment beyond a reminder to provide for expenditure accruing and due, or unexpired.

The apportionment of expenditure between selling expenses and general expenses may at times be somewhat difficult; the distinction is not, however, of the first importance.

On the credit side, and against the foregoing expenses, there stands the gross trading profit, augmented by the addition of

Form 37.— HOME

COMPARATIVE TRADING AND PROFIT & LOSS showing also the figures for the

	Half-Years ending			
	Cost per Ton	30th June 1908	Cost per Ton	31st December 1908
		£ s d		£ s d
COAL MINING EXPENSES:—				
Productive Wages				
Oncost Wages above Ground ..				
Do. Underground ..				
Pit Manager and Office, and Engineer				
Workmen's Compensation Insurance				
Timber				
Ropes and Rails				
Horses and Stable				
Sundry Stores				
Repairs to Plant				
Boiler Fuel and Power				
Coal-Cutter Expenses				
Lordship or Royalties				
Colliery Rates and Taxes				
Colliery General Charges ..				
Depreciation on Fixed Plant ..				
Sinking Fund				
BALANCE GROSS PROFIT carried down				
		£		£
SELLING EXPENSES:—				
Salaries—				
Management				
Travellers and Clerks				
Travelling Expenses				
Trade Charges				
GENERAL EXPENSES:—				
Audit and Legal Expenses ..				
Office Rent, &c.				
Interest on Loans, &c.				
Bad Debts				
Income Tax				
RESERVES				
NET PROFITS:—				
Carried to Profit Appropriation Account				
		£		£

COLLIERY.

ACCOUNTS for Half-Year to 31st December 1908, preceding Half-Year.

	Half-Years ending	
	30th June 1908	31st December 1908
Tonnage		
	£ s d	£ s d
SALES OF COAL:—		
Less Discount and Allowances		
Add Increase in Stocks during half year ..		
Or *Deduct* Decrease in Stocks during half year		
WASHER ACCOUNT: Surplus on working		
DEPÔTS ACCOUNT: Surplus on working		
	£	
GROSS PROFIT brought down		
RAILWAY DUES ACCOUNT:—		
Surplus		
WAGON HIRE:—		
Surplus on Hires		
WAGON REVENUE:—		
Net Earnings		
COLLIERS' HOUSES:—		
Surplus on Rents		
INTEREST ON INVESTMENTS		
DISCOUNT RECEIVED		
TRANSFER FEES		
	£	

any surplus that may have emerged in the accounts kept for Railway Dues, Wagon Hire, Wagon Revenue, and Workers' Houses, all as previously described; and also Interest on Investments, and any minor credits, such as Discounts received, Transfer Fees, &c.

The net difference then shown on balance of the debits and credits represents the net profit or loss for the period, which is carried to the Profit Appropriation Account in the Balance Sheet.

Form 38 is designed on the same principle as Form 37, but it will be found more convenient to deal with the figures of Sales and Coal-mining costs in a separate table, so as to show so far as possible for each pit or colliery the direct costs and the gross profit.

In Form 38 as in No. 37 provision is made for columns to show against each item the comparative figures for the preceding half-year or year.

These figures will be found still more helpful if each half-year's tonnage is stated, and if columns are added to show the cost per ton of each item of the direct expenses. These costs per ton in each pit may then be compared with previous half-years and with the figures brought out for the other pits.

Following on this summary of the results of the various pits is a general Profit and Loss Account, commencing with the figures of gross profit brought out as above. The remainder of the account is similar to Form 37, the gross profits on coal being augmented by any surplus on the Railway Dues, Wagon Hire, Wagon Revenue, Colliers' Houses, and Interest Accounts, under deduction of the Selling and General Expenses, all as described under Form 37.

Form 38.— COMPARATIVE TRADING ACCOUNTS for half-years to 30th June and 31st December 1908.

	"A" Colliery						"B" Colliery						"C" Colliery						Total					
	Half-years to						Half-years to						Half-years to						Half-years to					
	June 1908			Dec. 1908			June 1908			Dec. 1908			June 1908			Dec. 1908			June 1908			Dec. 1908		
	Tons			Tons.....			Tons.....			Tons.....			Tons.....			Tons.....			Tons.....			Tons.....		
	Per ton	£	s d	Per ton	£	s d	Per ton	£	s d	Per ton	£	s d	Per ton	£	s d	Per ton	£	s d	Per ton	£	s d	Per ton	£	s d
Tonnage of Output																								
Sales of Coal																								
Adjust differences in Stocks ..																								
Less Discount and Allowances..																								
Net Output																								
Add																								
Washers—Surplus																								
Depots— " ..																								
Coal Mining Costs:—																								
Productive Wages																								
Oncost Wages																								
etc. } per Form 37																								
etc. }																								
Depreciation & Sinking Fund																								
Total																								
Balance—Gross Profits.. ..																								

Form 38.—*(continued.)*

COMPARATIVE PROFIT AND LOSS ACCOUNT for the half-year to 31st December 1908.
(Showing also the figures for the preceding half-year.)

	30th June '08			31st Dec. '08				30th June '08			31st Dec. '08		
	£	s	d	£	s	d		£	s	d	£	s	d
SELLING EXPENSES—							GROSS PROFITS OF COLLIERIES, Viz.:—						
Salaries—Management							"A" Colliery						
Travellers and Clerks							"B" "						
Travelling Expenses							"C" "						
Trade Charges							&c. "						
GENERAL EXPENSES—							Total .. £						
Audit and Legal Expenses ..							Railway Dues Account—Surplus ..						
Office Rent, &c.							Wagon Hire						
Interest on Loans, &c.							" Revenue						
Bad Debts							Colliers' Houses						
Income-tax							Interest on Investments						
RESERVES—							Discount received						
NET PROFITS carried to Profit Appropriation Account							Transfer Fees						
	£			£				£			£		

BALANCE SHEET.

The Balance Sheet is a statement designed to show the assets and liabilities of a concern at any given date.

In form the Balance Sheet of a private firm differs little from that of a limited company, and, with slight modifications, it is believed that the example given (Form 39) will be readily adapted to meet most cases.

Practice varies as to the sides on which the assets and liabilities are respectively shown. In the United Kingdom the general rule is to place the liabilities on the left side and the assets on the right; while in the United States the sides are usually reversed. The use of the terms "Dr." and "Cr.," and "To" and "By," in framing Balance Sheets is quite unnecessary, and their use throughout books of account is now being abandoned. These points are, however, of minor importance.

LIABILITIES.

The liabilities are classified to show the amounts due to ordinary trade creditors and to cash creditors, and the reserves set aside for various purposes. The balance, being the excess of assets over these liabilities, represents the proprietors' capital invested in the business.

In private partnerships it may be noted that, if under the Contract of Co-partnery the capital of each partner is fixed at a certain sum, any accumulation of undrawn profits, etc., should be shown as a distinct item, for the reason that such sums might in a winding-up require to be treated as loans to the business, and in a question of ranking between the partners they might be repayable in priority to the capital.

To insure the inclusion of all Trade Accounts due by the business, a "Stocktaking" Circular should be issued to all the suppliers with which the firm deals, asking for a statement of

any sum due at date of balance. Credit may be taken for the estimated amount of discount receivable on payment of such accounts.

Adequate allowance must be made for all accrued charges and for the proportions of periodic payments—such as Wages, Royalty, Rent, Taxes, Insurances, &c. Where any of these are paid in advance, credit is taken for the portion unexpired.

Reserves.—Where amounts are set aside by way of reserve against contingencies which may arise in the future, these are shown separately on the liabilities' side of the Balance Sheet. In any cases, however, where the sums set aside represent *ascertained* losses, or depreciation on specified assets, they should be deducted from the assets to which they refer, and not shown as *reserves*. This is for the obvious reason that no real reserve exists until all ascertained losses have been fully provided for.

A useful distinction has been drawn as to the use of the terms *Reserve* and *Reserve Fund*, the latter being applied to the actual investments or funds which represent the reserves made, when these are invested outside the undertaking itself. In other words, the Reserve is technically the *liability* of the company in respect of the assets which have been reserved and set aside by the company for the purpose of such reserve. The existence of a reserve is, however, in no way dependent upon the amount thereof being invested in securities outside the business. This amount may be, and often is, retained for the general business of the company, and immixed with its other assets; but in this case it is hardly correct to designate it as a Reserve *Fund*.

The amounts written off the Leases, Buildings, and Fixed Plant from time to time, to provide for Depreciation and Sinking Fund, as more particularly explained in the chapter dealing

therewith, are accordingly shown in the Balance Sheet as deductions from the leases and other assets to which they apply.

A *Bad Debt Reserve*, built up steadily out of profits, will often be found of value to provide against exceptional losses on customers' accounts. arising from a cycle of bad trade or the failure of some large customer.

In the same way, as explained in the section dealing with Income-tax, it is advisable to set aside in profitable years a reserve to provide for the future payment of income-tax, which under the present method of assessment often falls heaviest in times of depression.

Partners' Interest and Income-tax.—In computing interest on partners' capital, account should be taken of interest upon the partners' drawings during the period. From all such interest income-tax should be deducted and credited to Income-tax Account, the effect being to charge each partner with his proper share of tax. Otherwise, if the income-tax is charged against the partners in the same proportions as they share profits, it operates unfairly against a partner whose share of the capital is a smaller proportion than his share of profits. When partners' salaries are not in the same relation as their shares of profits the incidence of income-tax in respect of salaries also requires attention.

ASSETS.

Capital Expenditure.—In the chapter on Capital Expenditure and Depreciation the subject of fixed assets and their depreciation has already been discussed.

Outstanding Accounts.—It is presumed that these have been carefully scrutinised, particularly with a view to following up those which are overdue, or in any other way present special features. In order to verify the Ledger balances, and to safeguard against the inclusion of book debts which may have been

collected but not accounted for, it is advisable that statements of all accounts outstanding at date of balance should be handed over to the auditor, that he may verify the amounts with the books and issue the statements to customers, with a slip attached requesting that any inaccuracy may be at once notified direct to him.

Full provision is, of course, made for any discount to be allowed on the accounts, and for possible loss on debts which may be considered doubtful or difficult to realise.

SHORTS.—As already explained, these should only be carried forward as an asset in cases where there is a certainty of their being worked off by accruing royalties within the prescribed period.

INVESTMENTS.—The subject of Reserve Funds has already been dealt with under the heading of Liabilities, and it need only be added that securities should, as a rule, be stated at cost price or market price, whichever is the lower. Note should also be made of any contingent liability that may attach to any of the investments in respect of uncalled capital or otherwise.

EXTRAORDINARY EXPENDITURE.—In addition to the Capital Expenditure already dealt with, there is often a considerable amount of expenditure, such as New Works and Special Repairs, which it is difficult to apportion at the time between capital and revenue. One method which has been found to work satisfactorily is to charge such items to an Extraordinary Expenditure Account until the end of the year or half-year, when the whole of such expenditure can be considered together and dealt with in full knowledge of the whole circumstances. It may be considered that under this method questions of principle and policy are liable to be unduly affected by the trading results; on the other hand, this danger always exists, and probably to a greater degree where the results are not definitely known but are still in the making.

Form 39.—

BALANCE SHEET as at 31st December 1908.

Liabilities.	£ s d	£ s d
I.—CAPITAL—		
Authorised: 100,000 Preference Shares of £1 each..		
100,000 Ordinary Shares of £1 each....		
Issued: 50,000 Preference Shares of £1 each, fully paid		
80,000 Ordinary Shares of £1 each, 15s. paid		
II.—TRADE CREDITORS—		
Open Accounts		
Less Allowance for Discount		
Bills Payable		
Royalties accrued		
Salaries and Wages		
Rent, Taxes, &c., accrued		
Allowance for Unrendered Accounts		
III.—CASH CREDITORS—		
Bank Overdraft, with interest to date		
Loan by A. B., "		
IV.—BILLS RECEIVABLE, Discounted .. £		
V.—GENERAL RESERVE—		
Amount at 31st December 1907		
Added at Annual Meeting on.....1908 ..		
VI.—BAD DEBT RESERVE—		
Amount at 31st December 1907		
Added during year		
VII.—INCOME TAX RESERVE—		
Amount at 31st December 1907		
VIII.—PROFIT APPROPRIATION ACCOUNT—		
Balance at 31st December 1907 ..		
Less Dividends declared at Annual Meeting on.....1908 .. .. £		
Additions to General Reserve £		
Add Profit for year per Profit and Loss Account		
	£	£

Assets.	£ s d	£ s d
I.—COLLIERY LEASE, BUILDINGS, AND FIXED PLANT—		
Cost to 31st December 1907 per last accounts ..		
Added (less sold) during year		
Less: DEPRECIATION AND SINKING FUND—		
As at 31st December 1907 .. £		
Added during year ..		
£		
II.—WORKMEN'S HOUSES, as at 31st December 1907—		
Less Bond secured thereon (@ 4 %..		
III.—MOVABLE PLANT, TOOLS, HORSES, &C.—		
Per Inventory and Valuation		
(or at Cost *less* Depreciation)		
IV.—WAGONS, LOCOMOTIVES, &C., as at 31st Dec. 1907		
Added during year		
Less Depreciation		
V.—FURNITURE AND FITTINGS, at cost less Depreciation		
Head Office		
Colliery		
Depot		
VI.—STOCKS AND STORES, per Inventory certified by Manager—		
Coal at Pit, Ports, and Depot		
Sundry Stores		
VII.—SUNDRY DEBTORS—		
Open Accounts per Sales Ledger		
Less Allowance for Discount and Loss ..		
Shorts		
Interest accrued, and charges unexpired ..		
VIII.—RESERVE FUND INVESTMENTS—		
£10,000 Consols at Cost		
IX.—CASH AND BANK BALANCES—		
In hand on Current Accounts		
On hand at Head Office		
At Pits		
	£	£

INDEX.

PAGE

A

Abstract Sales Book 25
Accidents to Employees 77
Accounts Rendered Book 35
Advances to Workers 9
Advice Notes 18
Assets 105

B

Balance Sheet 103
Balancing Ledgers separately 36
Benefit Society Subscriptions—Collection 9
Boiler Fuel 30

C

Capital Expenditure 67
  Original Development—Mining 67
    Interest on Capital.. 68
  Subsequent Development Work 68
Cart Sales.. .. .. 29, 30
Cash Book 44
  List of Accounts for Payment 46
  Petty 46
  Scroll 45
  Voucher Cheque 47
Certification of Wages Sheets 11
Check Weigher—Function 1
  Wages 9
Coal-cutting Costs 61
Coal Ledger 23-25
Colliers' Houses—
  Accounts 90-93
  Depreciation 92
  Free House Rent 92
  Payment of Rent 7
  Rent Roll 92

PAGE

Companies Act, 1908 68
Contract Book—Sales 15
Cost Sheets 32, 33, 55
Coal-cutting 61
Fortnightly 55
Monthly Profit and Loss Accounts 55, 57

D

Day Book—Sales 20-23
Treatment of Railway Dues, Shipping Charges, &c. .. 31
Deductions from Wages—Advances, Benefit Society, Check Weighers' Wages, Doctor's Fees, Fines, Rents, Smith Work, Stores, Workers' Coal 7-9
Demurrage 35
Depôt—
Accounts 90
Coal Sales 27
Depreciation 69
Colliers' Houses 92
Development Sinking Funds 70
Interest on 72-73
Investment of 73
Method of Calculation 72-74
For Income Tax Accounts 80
Obsolescence 69
Plant Record 69
Rates of 69, 70
Wear and Tear of Equipment 69
Despatch Sheets or Book 17, 18
Development 67, 68
Original—Mining 67
Interest on Capital 68
Office and Commercial 67
Subsequent 68
Sinking Funds 70
Writing off 68
Diagrams 64
Discount on Purchases 43
Doctor's Fees, Collection of 9

PAGE

E

Employers' Liability Insurance 77
Engine Coal 30
Extraordinary Expenditure 106

F

Finance—
Capital Sunk in Stores 54
Financing of Purchases 37
Fines 9
Free Houses 92

G

Graphs 64

H

Hire Purchase of Wagons 82, 83
Horses and Ponies 93
Houses (*see* Colliers' Houses) 90

I

Income Tax 78
Calculation of 78
Depreciation for Income Tax 80, 81
For several Collieries 81
Form of Account 79
Pit Sinking 81
Insurance—
Employers' Liability 77
Mutual Associations 77
Records of Accidents, &c. 78
Interest on Capital during Development 68
Inventory of Stock 55
Investments 106

L

Ledgers—
Customers' 36
Nominal and Private 36
Separate Balancing of 36
Stores 52
Liabilities 103
Lordship—*see* Royalty 76

PAGE

M

Monthly Profit and Loss Accounts 57
Mutual Insurance Associations 77

N

New Works 106
Nominal Ledger 36
Non-productive Wages 5

O

Obsolescence 69, 70
Oncost Wages—
  Above Ground 5
  Under ,, ... 5
  Time Books 5
Order Book for Sales 12
  ,, for Requisitions 38, 39
  ,, ,, Supplies 37
Output 1
  Output Book 1
  Pithead Weight Sheets 1
  Reconciliation of Output and Sales 32
  Weighing of 1

P

Passing Accounts—Purchases 40
Payment of Accounts 46
  ,, ,, Wages 10
Pay Tickets and Envelopes 10
Petty Cash Book 46
Pick Sharpening 7
Pithead Weight Sheets or Book 1
Pit Sales 29
Preliminary Expenses—*see* Capital Expenditure 67
Private Ledger 36
Productive Wages 5
Profit and Loss Accounts—Monthly 57
  ,, ,, ,, Half-yearly 96-102
Purchase Book 40-43

PAGE

Purchases 37
  Analysis of 42
  Discount 43
  Financing of Purchases 37
  Goods Received Sheet 40
  Orders 37
  Passing of Accounts 40
  Payment of Accounts 46
  Purchase Book 40
  Purchasing Agent 37
  Register 43
  Requisitions for 38, 39
  Stores 39-44
Purchasing Agent 37

Q

Quotation Book—Sales 12

R

Railway Dues 31
  In Day Book 31
  Ledger Account 31
Railway Sidings 93
Rates Book—Wages 5
Reconciliation of Output and Sales 32
Rendering of Accounts 35
Rent—
  Colliers' 7
  Superiors'—*see* Royalty 77
Repairs—Special 106
Requisitions for Stores 38, 39, 50
Reserves—*see* Sinking Fund 69-75
  In Balance Sheet 104, 5
Revenue Accounts—*see* Profit and Loss Account 57, 96
  Colliers' Houses 90-93
  Wagons 85
Royalty—
  Fixed or Dead Rent 76
  Shorts 76
  Surface Damage 77
  Way-Leave 77

PAGE

S

Sales Depôts 90
Sales 12
Abstract Book 25
Accounts Rendered Book 35
Coal Ledger 23
Contract Book 15
Day Books 20
Depôt Coal 27
Despatch Book—Scroll 17
,, Sheet 18
Engine Coal 30
Ledgers 36
Orders 12
Pit or Cart Sales 29
Quotation Book 12
Railway Dues 31
Reconciliation of Output and Sales 32
Rendering of Accounts 35
Shipping 27
,, Charges 31
Wagon Hire 31
Washed Coal 27
Shipping Charges 31
,, Sales 27
Shorts (under Royalty) 76
Sidings 93
Sinking Fund—*see* Depreciation 69-75
Smith Work 7
Stock—*see* Stores 49
Stock—*see* Inventory 55
Stocktaking Circular 103
Stores 39
Accounts 44, 49
Capital sunk in 54
Inventory 55
Issued Sheets 50
Ledger 52
Purchase of—*see* Purchases 37

PAGE

Stores—
Receipt of 40
Requisitions for 50
Sales to Workers 7
Stocktaking—Test 54
Surface Damages 77
,, Railway 93

T

Trading Account—*see* Profit and Loss Account 96-102

U

Unclaimed Wages 11

V

Voucher Cheques 47
,, Register 43

W

Wages 5
Deductions from—*see* Deductions 7-9
Oncost—Above Ground 5
,, Under Ground 5
,, Time Books 5
Pay Tickets and Envelopes 10
Payment of 10
Productive and Non-productive 5
Rates Book 5
Unclaimed Wages 11
Wages Sheets 7
Wagon Capital Account 85
,, Revenue ,, ... 85
Wagon Hire 31, 82
Books 33
Demurrage 35
Wagons, Hire Purchased 82
,, Owned by Company 82

	PAGE
Washer Coal—Accounts	88
,, ,, Sales Day Book	27
Way Bills	18
Wayleave	77
Wear and Tear	69
Weight Notes	18
Workers' Coal	7
Workmen's Compensation	77

JUN 23 1920

MSH 05962.

NEH FEB 27 1995

COLUMBIA UNIVERSITY LIBRARIES
0044244193

END OF
TITLE